TRANSCRIPT OF RECORD.

160-110

SUPREME COURT OF THE UNITED STATES.

OCTOBER TERM, 1895.

No. 9.

HARRY C. McCARTY AND JOHN F. BICKEL, APPELLANTS,

vs.

THE LEHIGH VALLEY RAILROAD COMPANY.

APPEAL FROM THE CIRCUIT COURT OF THE UNITED STATES FOR THE EASTERN DISTRICT OF PENNSYLVANIA.

FILED OCTOBER 17, 1890.

(14,323.)

(14,323.)

SUPREME COURT OF THE UNITED STATES.

OCTOBER TERM, 1895.

No. 9.

HARRY C. McCARTY AND JOHN F. BICKEL, APPELLANTS,

vs.

THE LEHIGH VALLEY RAILROAD COMPANY.

APPEAL FROM THE CIRCUIT COURT OF THE UNITED STATES FOR THE EASTERN DISTRICT OF PENNSYLVANIA.

INDEX.

	Original.	Print.
Caption	1	1
Bill of complaint	3	1
Answer	11	5
Replication	18	9
Amendment to answer	21	9
Evidence for complainants	23	11
Stipulations as to evidence, &c.	23	11
Testimony of Harry C. McCarty	25	13
William L. Holman	67	55
Harry C. McCarty (recalled)	75	63
Exhibit No. 6—Letter, Lentz to McCarty, October 17, 1882	76	64
No. 7—Letter, McCarty to Lentz, October 24, 1882	77	65
No. 10—Letter, Lentz to McCarty, October 3, 1883	77	65
Testimony of George P. Whittlesey	78	66
Exhibit No. 1—Caveat of Harry C. McCarty	105	93
No. 2—Letters patent No. 314,459, granted Harry C. McCarty, assignor, &c., March 24, 1885	108	95
Claims from file-wrapper of letters patent No. 314,459	109	96

JUDD & DETWEILER, PRINTERS, WASHINGTON, D. C., OCTOBER 4, 1895.

	Original.	Print.
Exhibit No. 3—Letters patent No. 339,913, granted Harry C. McCarty, assignor, &c., April 13, 1886	114	100
Claims from file-wrapper of letters patent No. 339,913	116	102
No. 4—Extract from file-wrapper of interference between McCarty and Montz	125	108
No. 5—Letters patent No. 291,382, granted William H. Montz January 1, 1884	130	110
No. 11—Sketch of bolster	132	111
Exhibit Roberts Patent—Drawing attached to letters patent No. 25139, granted T. E. Roberts August 16, 1859	133	111
Exhibit Thurston and Ledyard Patent—Letters patent No. 47880, granted Thurston and Ledyard May 23, 1865	135	112
Exhibit Thielsen Patent—Letters patent No. 90795, granted H. Thielsen June 1, 1869	138	114
Exhibit Simonds Patent—Letters patent No. 252,531, granted G. B. Simonds January 17, 1882	141	117
Exhibit Sketch—Whittlesey's testimony	142	118
Evidence for the defendant	143	118
Notice to take testimony	143	118
Testimony of John S. Lentz	144	119
William H. Montz	154	126
George W. Beach	171	137
Constant A. Wolff	175	140
Carlos French	175	140
Heny D. Beach	177	142
George W. Beach (recalled)	184	147
Exhibits offered, &c.	186	148
Exhibit Foundry Statements	188	149
Exhibit Montz Original Sketch	191	151
Exhibit Letters Patent No. 98675, granted Isaac Dripps January 11, 1870	193	152
Exhibit Letters Patent No. 242,670, granted McCoy and Dean June 7, 1881	196	154
Exhibit Diagram of Naugatuck R. R. Iron Truck No. 1	198	156
Exhibit McCarty's Third Claim of Patent 339,913	199	156
Exhibit Second Claim Patent 314,459	200	156
Hearing and submission	201	156
Opinion	202	156
Final decree	209	159
Order allowing appeal	211	159
Bond	213	160
Citation	215	161
Clerk's certificate	216	161

1 In the Circuit Court of the United States in and for the Eastern District of Pennsylvania, in the Third Circuit.

HARRY C. McCARTY and JOHN F. BICKEL
vs.
LEHIGH VALLEY RAILROAD COMPANY.
No. 23. October Session, 1888.

UNITED STATES OF AMERICA,
Eastern District of Pennsylvania, ss:

Pleas and proceedings before the honorable the judges of the circuit court of the United States in and for the eastern district of Pennsylvania, in the third circuit, of October session, 1888, No. 23.

It is thus contained:

Be it remembered that on the thirteenth day of December, in the year of our Lord one thousand eight hundred and eighty-eight, Harry C. McCarty and John F. Bickel, by their solicitor,
2 Jerome Carty, Esquire, comes into court here and files their bill of complaint against the Lehigh Valley Railroad Company, which, being read, is in the words and figures following, viz:

3 In the Circuit Court of the United States in and for the Eastern District of Pennsylvania. In Equity.

HARRY C. McCARTY and JOHN F. BICKEL,
Plaintiffs,
vs.
LEHIGH VALLEY RAILROAD COMPANY.
No. 23. October Sessions, 1888.

To the honorable the judges of the circuit court of the United States in and for the eastern district of Pennsylvania:

Harry C. McCarty, of the city of Williamsport, in the State of Pennsylvania, and a citizen of the State of Pennsylvania, and John F. Bickel, of Morton, county of Delaware, State of Pennsylvania, and a citizen of Pennsylvania, resident in said district, bring this their bill of complaint against the Lehigh Valley Railroad Company, a corporation organized under the laws of the State of Pennsylvania, and doing business in the city of Philadelphia, in said district, and a citizen of Pennsylvania.

4 And thereupon your orators complain and say:

1. That heretofore and before the thirteenth day of April, A. D. 1886, Harry C. McCarty was the true, original, sole and first inventor of a new and useful improvement in car trucks, fully described in the letters patent hereinafter mentioned, not known or used before, and not in public use or on sale for more than two years prior to his application for a patent therefor.

2. And your orators further show unto your honors that the said Harry C. McCarty, so being the inventor of said improvement, and being also a citizen of the United States, made application to the

proper department of the Government of the United States for letters patent, in accordance with the then existing acts of Congress, having duly complied in all respects with the conditions and requirements of said acts; and afterwards, to wit, on the 8th day of Aug., 1883, and before the issuing of the hereinafter-mentioned letters patent, the said Harry C. McCarty, by an instrument in writing duly executed and delivered by him, and bearing date on the last-named day, did assign to John F. Bickel a one-half interest in said invention; and the said instrument in writing was duly recorded in the Patent Office on the 31st day of Aug., 1883; and that on the thirteenth day of April, 1886, letters patent of the United States, numbered 339,913, signed, sealed and executed in due form of law, for the said invention or discovery, were issued to the said Harry C. McCarty and John F. Bickel, and that the said letters patent did grant to them, their heirs and assigns, for the term of seventeen years from the thirteenth day of April, A. D. 1886, the exclusive right to make, use and vend the said invention or discovery throughout the United States and the territories thereof, as by said letters patent and assignment, or duly authenticated copies thereof in court to be produced, will fully appear.

5 2 A. That heretofore, and before the twenty-fourth day of March, A. D. 1885, Harry C. McCarty was the true, original, sole and first inventor of a new and useful improvement in car trucks, fully described in letters patent hereinafter mentioned, not known or used before, and not in public use or on sale for more than two years prior to his application for a patent therefor.

2 B. And your orators further show unto your honors that the said Harry C. McCarty, so being the inventor of said improvement, and being also a citizen of the United States, made application to the proper department of the Government of the United States for letters patent, in accordance with the then existing acts of Congress, having duly complied in all respects with the conditions and requirements of said acts; and afterwards, to wit, on the sixth day of June, 1884, and before the issuing of the hereinafter-mentioned letters patent, the said Harry C. McCarty, by an instrument in writing duly executed and delivered by him, and bearing date on the last-named day, did assign to John F. Bickel a one-half interest in said invention; and the said instrument in writing was duly recorded in the Patent Office on the twentieth day of February, 1885, and that on the twenty-fourth day of March, 1885, letters patent of the United States, numbered 314,459, signed, sealed and executed in due form of law, for the said invention or discovery, were issued to the said Harry C. McCarty and John F. Bickel, and that the said letters patent did grant to them, their heirs and assigns, for the term of seventeen years, from the twenty-fourth day of March, A. D. 1885, the exclusive right to make, use and vend the said invention or discovery throughout the United States and the territories thereof, as by said letters patent and assignment, or duly authenticated copies thereof in court to be produced, will fully appear.

3. And your orators further show unto your honors that they

have invested and expended large sums of money, and have
6 been to great trouble in and about said inventions for the purpose of introducing the same into use and making the same profitable to themselves and useful to the public, and that said inventions have been and are of great benefit and advantage to your orators and to the public, and of great practical use and utility; and that the public has generally acknowledged and acquiesced in the aforesaid rights of your orators, and your orators believe that they will realize and receive large gains and profits therefrom, if infringements by said defendants and their confederates shall be prevented.

4. And your orators further show unto your honors, as they are informed and believe, that the said defendants, well knowing the premises and rights secured to your orators aforesaid, but contriving to injure your orators and to deprive them of the benefits and advantages which might and otherwise would accrue unto them from said invention after the said letters patent were issued and your orators had acquired their rights aforesaid and before the commencement of this suit, did at the city of Philadelphia, in said eastern district of Pennsylvania, and elsewhere within the United States, without the license or allowance, and against the will of your orators and in violation of their rights, and in infringement of the aforesaid letters patent, unlawfully and wrongfully, and in defiance of the rights of your orators, make, use, sell, and offer to sell, and are now making, using, selling and offering to sell, car trucks embodying and containing substantially the improvement in the said your orators' letters patent mentioned and described and therein set forth and claimed.

5. And your orators further show that they fear and have reason to fear, that unless these defendants are restrained by an injunction of this court, they will continue to make, use and sell to a large extent the said patented improvement, and thereby will cause irreparable injury to your orators' said exclusive rights. But how much and to what extent the said defendants have made, used and sold the said invention, your orators are ignorant and cannot set forth; but your orators aver, on information and belief, that the de-
7 fendants have so made, used and sold, and are making, using and selling large numbers thereof, and that they have derived large profits therefrom, but to what number, and to what extent, your orators are ignorant, and pray a discovery thereof. And that your orators have sustained large damages by reason of said infringement upon their rights.

6. And your orators further say that the use of said invention by said defendants and their preparation for and avowed determination to continue the same, and their other aforesaid unlawful acts, in disregard and defiance of the rights of your orators, have the effect to encourage and induce others to venture to infringe said patents in disregard of your orators' rights.

And your orators pray that the said defendants, The Lehigh Valley R. R. Co., and their servants, agents, attorneys, employees, workmen and confederates, and each and every of them, may be per-

petually restrained and enjoined, by the order and injunction of this honorable court, from directly or indirectly making, constructing, using, vending, selling, delivering, working, or putting into practice, operation or use, or in anywise counterfeiting or imitating the said invention or patented improvements, or car trucks made or constructed in accordance therewith, or substantially similar thereto.

May it please your honors to grant unto your orators the writ of injunction issuing out of and under the seal of this honorable court, commanding, enjoining and restraining the said defendants, The Lehigh Valley Railroad Company, and their servants, agents, attorneys, employees and workmen, and each and every of them, during the pendency of this suit, as hereinbefore in that behalf prayed in regard to said perpetual injunction.

And your orators further pray that the defendants, The Lehigh Valley R. R. Co., may, by the decree of this court, be compelled to account for and pay over to your orators all the profits which the defendants have derived, or shall have derived, from any
8 making, selling or using of the said improvement, in violation of your orators' rights as secured by said letters patent; and also that the defendants be decreed to pay all damages which your orators have sustained on account of the defendants' infringement of said letters patent; that under the circumstances of the willful and unjust infringement by said defendants your honors may increase the actual damages which may be assessed against the defendants to a sum equal to three times the amount of such assessment. And also that defendants be decreed to pay the costs of this suit; and that your orators may have such further and other relief as the equity of the case, or the statutes of the United States may require, and to the court may appear just.

To the end, therefore, that these defendants may, if they can, show reason why your orators should not have the relief hereby prayed, and that they may full disclosure make of all the matters aforesaid, and upon the oath or affirmation of the president or other qualified officer of defendant corporation, and according to the best of his knowledge, remembrance, information and belief, full, true, direct and perfect answer make to such of the several interrogatories hereinafter numbered and set forth as by the note hereunder written they are required to answer; that is to say:

I. Whether the said letters patent, No. 339,913 & 314,459, were granted and issued to the said Harry C. McCarty and John F. Bickel, as hereinbefore set forth.

II. Whether the said defendants have at any time, and during what period of time, and to what extent, made, constructed, sold or used any of the inventions described and claimed in said letters patent, No. 339,913 & 314,459.

Describe the same minutely and in detail.

May it please your honors to grant unto your orators a writ of subpœna of the United States of America, directed to the said defendants, The Lehigh Valley R. R. Co., commanding them,
9 by the proper officers, to appear and answer this bill of complaint and to abide and perform such order and decree in the

premises as to the court shall seem meet, and be required by the principles of equity and good conscience.

(S'g'd) JEROME CARTY,
Solicitor and Counsel for Complainants.

NOTE.—The defendants are required to answer each of the foregoing interrogatories, numbered I and II.

(S'g'd) JEROME CARTY,
Solicitor and Counsel for Complainants.

EASTERN DISTRICT OF PENNSYLVANIA, *ss:*

John F. Bickel, being duly sworn according to law deposes and says that he is one of the complainants above named, and that the statements contained in the foregoing bill of complaint are true of his own knowledge, except as to those matters which are therein stated to be on information and belief, and as to those matters, he believes them to be true.

(S'g'd) JOHN F. BICKEL.

Sworn to and subscribed before me this 8th day of Dec., A. D. 1888.

(S'g'd) JOHN A. WIEDERSHEIM,
[SEAL.] *Notary Public.*

10 (Endorsed:) No. 23. October sessions, 1888. United States circuit court, eastern district of Pennsylvania. Harry C. McCarty and John F. Bickel *vs.* Lehigh Valley Railroad Company. Bill in equity. To the clerk U. S. C. C. for the eastern district of Pennsylvania: Issue subpœna returnable first Monday January, 1888. Jerome Carty, counsel for complainants. Filed Dec. 13, 1888.

11 And afterwards, to wit, on the 24th day of January, A. D. 1889, the respondents, by its solicitor, Andrew McCallum, Esq., comes into court here and files its answer, which, being read, is in the words and figures following, viz:

Circuit Court of the United States, Eastern District of Pennsylvania.
In Equity.

HARRY C. MCCARTY and JOHN F. BICKEL, Complainants, *v.* THE LEHIGH VALLEY RAILROAD COMPANY, Defendant. } No. 23. Oct. Sessions, 1888.

The answer of The Lehigh Valley Railroad Company, defendant, to the bill of complaint of Harry C. McCarty and John F. Bickel, complainants.

The defendant, now and at all times hereafter saving and reserving to itself all benefit and advantage of exception which can or

may be had or taken to the many errors, uncertainties, and other imperfections, in the said complainants' bill of complaint, for answer thereunto, or unto so much and such parts thereof as the defendant is advised is or are material or necessary for it to make answer unto, says:

I. That it does not know, save as alleged in said bill of complaint, whether the complainants are citizens of the State of
12 Pennsylvania, residing in said district, and therefore denies the same, and leaves the complainants to make such proof thereof as they shall be advised is material.

II. Defendant admits that it is a corporation doing business in the State of Pennsylvania and elsewhere.

III. That it has been informed, and admits to be true, that Harry C. McCarty made application to the Commissioner of Patents of the United States for the grant of letters patent for an alleged improvement in car trucks, but denies that the said Harry C. McCarty was the first and original inventor of the alleged improvement described in said application for letters patent. And further says that it does not know and is not informed save by said bill of complaint whether said Harry C. McCarty did properly make said application for letters patent, and did comply with all the requirements of law, and therefore denies the same and leaves complainants to make full and ample proof thereof in each and every particular.

IV. That defendant does not know and is not informed save by said bill of complaint whether the said McCarty did, on the 8th day of August, 1883, by an instrument in writing, assign to John F. Bickel an one-half interest in said alleged invention, and therefore denies the same, and leaves the complainants to make proof thereof.

V. That defendant does not know and is not informed save by said bill of complaint whether letters patent of the United States bearing date April 13, 1886, and numbered 339,913, were issued to the said Harry C. McCarty and John F. Bickel in due form of law, and therefore denies the same and leaves complainants to make such proof thereof as they shall be advised is material. And further denies that said letters patent No. 339,913 granted or
13 secured to said McCarty and Bickel, their heirs or assigns, any exclusive right or rights whatever.

VI. That the defendant does not know and is not informed save by said bill of complaint that the complainants have invested and expended large sums of money and have been to great trouble in and about said alleged invention, and therefore denies the same and leaves complainants to make full and ample proof thereof in each and every particular.

VII. That it has been informed and admits to be true that said McCarty made a second application for letters patent for an alleged improvement in car trucks, as set forth in the bill of complaint; but denies that the said McCarty was the first and original inventor of the alleged improvement therein described. And further says that it does not know and is not informed save by said bill of complaint whether said McCarty did properly make said application

for letters patent and did comply with all the requirements of the law; and therefore denies the same and leaves complainants to make full and ample proof thereof in each and every particular.

VIII. That defendant does not know and is not informed save by said bill of complaint whether the said McCarty did on the 6th day of June, 1884, by an instrument in writing, assign to John F. Bickel an one-half interest in said alleged invention, and therefore denies the same and leaves the complainants to make proof thereof.

IX. That defendant does not know and is not informed save by said bill of complaint whether letters patent of the United States, bearing date March 24, 1885, and numbered 314,459, were issued to the said Harry C. McCarty and John F. Bickel in due form of law, and therefore denies the same and leaves complainants to make such proof thereof as they shall be advised is ma-
14 terial. And further denies that said letters patent No. 314,459 granted or secured to said McCarty and Bickel, their heirs or assigns, any exclusive right or rights whatever.

X. Further answering, defendant denies that the alleged improvements described in said letters patent are of advantage to the public and of great practical use and utility, and that the public has generally acknowledged and acquiesced in the alleged rights of complainants under said letters patent or either of them, and avers that the said alleged improvements in car tracks are not patentable inventions and have no practical utility.

XI. Further answering, defendant avers that the said alleged inventions or improvements or all substantial and material parts thereof set forth and claimed as new in said patents Nos. 339,913 and 314,459 were, long before the alleged inventions or discoveries by said McCarty, shown or described in the following letters patent and publications, to wit:

In letters patent of the United States granted as follows:

No. 20535, W. D. Arnett, June 15, 1858.
" 25139, T. E. Roberts, Aug. 16, 1859.
" 27608, T. F. Allen, March 27, 1860.
" 47880, E. Thurston and J. R. Ledyard, May 23, 1865.
" 54085, C. F. Allen, April 24, 1866.
" 90795, H. Thielsen, June 1, 1869.
" 98675, I. Dripps, January 11, 1870.
" 234,621, D. E. Small, Nov. 16, 1880.
" 242,670, W. J. McCoy and B. Dean, June 7, 1881.
" 251,618, E. B. Meatyard, Dec. 27, 1881.
" 252,531, G. B. Simonds, January 17, 1882.
" 278,292, I. C. Terry, May 22, 1883.
" 279,951, L. K. Jewett, June 26, 1883.
" 291,382, W. H. Montz, January 1, 1884.
No. 304,558, A. J. Pitkin, Sept. 2, 1884.

15 In a publication entitled the "Car-builders' Dictionary," by Matthias N. Forney, published in New York city, New York, in the year 1879. And also in the revised edition of same published in the year 1884.

XII. Further answering, defendant avers that the said alleged

inventions or improvements or all substantial and material parts thereof set forth and claimed as new in said patents Nos. 339,913 and 314,459 were, long before the alleged inventions or discoveries by said McCarty known and publicly used in the State of New York and elsewhere by the New York Central and Hudson River Railroad Company, and such use was known to William Buchanan and others, employés of said railroad company.

XIII. Further answering, defendant denies that it has ever made, used, sold or offered to sell, or is now making, using, selling or offering to sell car trucks embodying or containing the improvements claimed as the inventions secured by said letters patent or either of them. And denies that it has in any manner infringed upon any legal right secured to the complainants by virtue of said letters patent or either of them.

And further answering, defendant avers that it is engaged in diligent investigation as to the prior knowledge and use of the alleged invention described in said letters patent, and expects to obtain such further information as may render it necessary to amend this answer to protect its rights in the premises and secure the ends of justice; the defendant, therefore, saves and reserves to itself, as far as it may, the right to make such amendment.

And the defendant prays the same benefits of the facts and things herein set forth, as if for the reason thereof it had demurred to said bill of complaint where a demurrer would have been proper, and the same benefits thereof as if it had specially pleaded to said bill.

16 And the defendant on information and belief denies every allegation in said bill of complaint, not hereinbefore admitted, answered or denied.

Wherefore the defendant prays to be hence dismissed with all reasonable costs and charges in this behalf most wrongfully sustained.

ANDREW McCALLUM,
Solicitor for Defendant.

STATE OF PENNSYLVANIA, }
County of Philadelphia, } *ss:*

Before me personally came Charles Hartshorne, vice-president of The Lehigh Valley Railroad Company, defendant in the foregoing answer named, and, being duly affirmed according to law, says that the statements contained in the foregoing answer, so far as the same are stated on the knowledge of this defendant, are true, and so far as the same are stated on information and belief, this affiant believes them to be true.

CHAS. HARTSHORNE.

Witness my hand and notarial seal this 16th day of January, A. D. 1889.

[SEAL.] J. HENRY WILLIAMS,
Notary Public.

17 [Endorsed:] No. 23. October sessions, 1888. Circuit court of the United States, eastern district of Pennsylvania. In equity. Harry C. McCarty and John F. Bickel *vs.* The Lehigh Valley Railroad Company. Defendant's answer. Andrew McCallum, solicitor for defendant, 614 F street N. W., Washington, D. C. Filed Jan. 24, 1889.

18 And afterwards, to wit, on the 2nd day of February, A. D. 1889, the complainants, by their solicitor, comes into court here and files their replication, which, being read, is in the words and figures following, viz:

In the U. S. Circuit Court for the Eastern District of Pennsylvania.

HARRY C. McCARTY and JOHN F. BICKEL *vs.* LEHIGH VALLEY RAILROAD COMPANY. } No. 23. October Session, 1889.

The replication of the above-named complainants to the answer of the above-named defendant.

These repliants, saving and reserving to themselves now and at all times hereafter all and all manner of benefit and advantage of exception which may be had or taken to the manifold in-
19 sufficiencies of said answer, for replication thereunto say that they will aver, maintain, and prove their bill of complaint to be true, certain, and sufficient in law to be answered unto, and that the said answer of the said defendant is uncertain, untrue, and insufficient to be replied unto by these repliants; without this, that any other matter or thing whatsoever in the said answer contained material or effectual in the law to be replied unto and not herein and hereby well and sufficiently replied unto, confessed and avoided, traversed or denied, is true; all which matters and things these repliants are and will be ready to aver, maintain, and prove as this honorable court shall direct, and humbly pray as in and by their said bill they have already prayed.

JEROME CARTY, *Of Counsel.*

Feb'y 2nd, 1889.

20 (Endorsed:) 23. Oct. sess., 1888. U. S. C. C., eastern dist. of Pa. McCarty *et al. vs.* Lehigh Valley Railroad Co. Replication. Filed Feb. 2, 1889. Jerome Carty.

21 And afterwards, to wit, on the 4th day of June, A. D. 1889, the defendant, by its solicitor, comes into court here and, leave of the said court being first had and obtained, files its amendment to the answer, which, being read, is in the words and figures following, viz:

Circuit Court of the United States, Eastern District of Pennsylvania.

HARRY C. MCCARTY and JOHN F. BICKEL
vs.
THE LEHIGH VALLEY RAILROAD COMPANY.
} In Equity. No. 23. October Session.

Amendment to Answer.

Add the following to paragraph XII, page 5, printed Record:

Also that the same was "known and publicly used long
22 prior to the alleged invention or discovery by the said McCarty in the State of Connecticut and elsewhere by the Naugatuck Railroad Company, and such use was known to George W. Beach and others, employés of said railroad company."

ANDREW McCALLUM,
Solicitor for Defendant.

(Endorsed:) No. 23. October sess., 1888. C. C. U. S., E. D. of Pa. McCarty *et al. vs.* Lehigh Valley R. R. Co. Amendment to answer. Filed June 4, 1889.

United States Circuit Court,

Eastern District of Pennsylvania.

October Sessions, 1888. No. 23.

In Equity.

Harry C. McCarty and John F. Bickel

vs

The Lehigh Valley Railroad Company.

Testimony on the part of complainants, taken in pursuance of notice and agreement of counsel before John A. Wiedersheim, Esq., Notary Public, at the office of Jerome Carty, Esq., 919 Chestnut Street, Philadelphia, February 15, 1889.

Present:—Jerome Carty, Esq., counsel for complainants;
Andrew McCallum, Esq., counsel for defendants.

It was stipulated and agreed between counsel that Patent Office copies of all patents produced and offered in evidence,

subject to verification and correction, might be used with the same effect as though originals or certified copies thereof were produced in Court, certified copies to be produced at the hearing of the cause, if requested by either party.

It was further stipulated that the testimony on either side might be taken before any Notary Public, or duly qualified United States Commissioner, on giving not less than ten days' notice, as special examiner, and that the time for taking testimony on either side might be extended by mutual consent.

Counsel for complainants states without prejudice that for the purpose of facilitating the issue in this case, and at the suggestion and request of counsel for defendant, the question of infringement under the respective Patents cited in the bill may be limited to Claim No. 2, of Patent dated March 24, 1885, No. 314,459, which reads, as follows: "In a car truck, a bolster consisting of upper and lower bars and supporting angle-irons between the bars, said angle-irons being parallel to said upper and lower bars and bolted thereto through their flanges, substantially as and for the purpose set forth."

And to Claims, Nos. 1, 3 and 4 of Patent dated April 13, 1886, No. 339,913, which read as follows:

"1. As an Improvement in Car Trucks, the hereinbefore described bolster, composed of bars connected together at their ends, and having their centres united and held in relative vertical positions by means of posts and bolts, in combination with the truss-rods, substantially as and for the purpose set forth."

"3. The lower bar, G, having flanges Q turned up on its ends in combination with the arched upper bar, F, having its ends bearing against said flanges, the guide plates, P, bolted to the ends of said bars under the same, the stops or blocks M,

inserted between bars F and G, near their ends, and the pillars H, also interposed between said bars, as stated."

"4. The upper bolster, composed of the bent bar F, straight bar G, and interposed columns M, in combination with the plates P, secured beneath the bars F G at their ends, and notched or grooved on their sides at *a*, to receive the columns B of the said irons, substantially as and for the purpose set forth."

Harry C. McCarty, a witness produced on the part of complainants and being duly sworn, examined by Mr. Carty, deposes, as follows:

Question 1.—State your name, age, residence and occupation?

Answer.—My name is Harry C. McCarty; my age is thirty-five years; I reside at Williamsport, Pennsylvania; by occupation I am General Car Inspector of the Pennsylvania Railroad Company.

Q. 2. Are you the Harry C. McCarty named as the inventor of certain Improvements in Car Trucks as set forth in Letters Patent of the United States of America, dated March 24, 1885, No. 314,459, and April 13, 1886, No. 339,913?

A. I am.

Q. 3. Please state when you first took up the subject of Improvements in Car Trucks, so far as regards the formation of a bolster?

A. The question was first considered during the latter part of the year 1879 and on during 1880.

Q. 4. What was done by you then of a practical nature as to reduction to practice or practical form of your invention?

A. The constant failure of the ordinary bolsters then in use, which were constructed of wood, led me to suggest remedies for that failure. And on through 1880, I was constantly engaged endeavoring to design a bolster to embody all requirements in the way of strength, as well as a form simple and inexpensive to manufacture, and also readily restored to its proper form in case of damages, which was one of the essential features in the maintenance of the car equipment of the country. During this year, 1880, I had a bolster made consisting of two iron plates and three pieces of timber, arranged as per cross-section, as follows: The five pieces being held in position by bolts as shown in the following diagram, now produced and marked "Exhibit, Complainants' Diagram, No. 11." This, however, did not meet all the requirements, and after a trial for some months during this year, 1880, from the results of same I conceived the idea of using two iron plates, without the use of wood or timber, formed to effect a very strong bolster, without the disadvantages found in the use of wood in connection with iron plates. The form first suggesting itself at that time was the same as shown in Patent 339,913. It, however, soon developed that the form referred to possessed a very wide margin of strength without the use of Truss Rods, as then shown, which accordingly were dispensed with, and Patent 314,459 taken. During the latter part of the year 1882 I arranged to have a model made, and on September 30th of that year filed a caveat on the same. In October of the same year I exhibited same at a Convention known as "The Master Car Builders' Association," then in session at Niagara Falls, New York. During this Exhibit it was examined by a large number of the Master Car Builders of the country, among them being

Mr. John S. Lentz, Master Car Builder of the Lehigh Valley Railroad Company. The results of the examination in general were very gratifying at this Convention. Within a week after the adjournment of the same Mr. Lentz wrote me a letter, under date of October 17, 1882, as an official letter from the Lehigh Valley Railroad Company, requesting me to send him a blue print of the truck shown to him "while at Niagara last week." Under date of October 24, 1882, I replied to his letter of the 17th enclosing him a blue print as requested, which was exactly the same as the drawing annexed to Patent 339,913.

(The original letter and copy of witness's reply are herewith produced and marked "Exhibits Complainant's Exhibit, No. 6" and "Complainant's Exhibit, No. 7," respectively, and it is agreed between counsel that copies thereof may be used in Court as the originals, and in the same manner as to all other letters and papers offered in evidence by counsel on either side, the originals to be produced, if requested.)

Witness continuing: Following this, a series of trials was made by the Lehigh Valley Railroad Company, under the direction of Mr. Lentz, master car builder of this line. This was done after the receipt of this drawing, requested in letter of October 17, 1882, of their own accord and without any request by me. These trials soon demonstrated that the form of bolster shown on the drawing furnished at the time specified was a very desirable and economical bolster to place in service, which the Lehigh Valley Railroad Company proceeded to do, using the substantial features of the invention except the truss rod, substantially similar to the drawing which I now produce of an iron bolster made by me at Williamsport in February, 1882. (Drawing produced, and marked "Exhibit

Complainant's Exhibit, Drawing No. 8.") I filed my application for patent for the device shown in the model exhibited at Niagara Falls August 31, 1883, and patent was granted therefor April 13, 1886. All through the year 1883 our railroad business relations brought Mr. Lentz and myself together at close intervals, when we would discuss the advantages and progress of the iron bolster they were then placing in service, being the one substantially the same as drawing "Exhibit No. 8." During these discussions the question of form in detail was thoroughly discussed, in which I suggested to Mr. Lentz the experiments and drawings made by myself, with the opinion of my associates, which had clearly demonstrated that the bolster possessed sufficient strength without the use of the truss rod, as shown in the blue print sent him, which would simplify the construction and leave very wide margin of strength of that required.

In pursuance of the above results application was filed June 5, 1884, upon which Patent 314,449 was granted March 24, 1885.

In October, 1883, I noticed especially one of the cars of the Lehigh Valley Railroad Company, with the form of bolster as per drawing "Exhibit No. 8," having a broken centre plate, and, being interested in the question of bolster, advised Mr. Lentz, under date of October 3, 1883, to which he replied:

"I am obliged to you for the information contained in your favor of even date (namely, October 3, 1883), in reference to our new Hopper Bottom Car. We now have several hundred of these bolsters on the road, and this is the first I have heard of any trouble. They are doing splendid. Please give me

the number, and say where you saw the car referred to. With kind regards,

"JOHN S. LENTZ,
Master Car Builder, L. V. R. R."

Down to this period of time no arrangement had been agreed upon in which I had consented to the use by the Lehigh Valley Railroad Company of the invention, except a discussion in regard to the value of the invention per car, and a plan that would be best to carry out to enable us to have the bolster introduced upon other lines. Mr. Lentz expressed a willingness to take such interest and action that might be found necessary for the general introduction of the bolster. In this particular connection he desired that his foreman, Mr. W. H. Montz, would be particularly known in whatever action or arrangement that might be made; and by a previous request of Mr. Lentz I had with me the Patent Papers No. 314,459, showing bolster with the truss. After Mr. Lentz had looked it over he asked the question if I had any objection to Mr. Montz looking over the patent papers? to which I replied that I had none whatever. He further stated that he thought it desirable for him to look the papers over in connection with other papers, which I had previously understood to be a patent granted to Mr. Montz for what was known as Diagonal Brace Rods for a form of truck they were then building. After Mr. Montz had gone partially over Patent 314,359, I being present at the time, he asked the question in regard to some feature of the claim, and in replying to this question it was necessary for me to look over Mr. Montz's shoulder in order to see the point referred to, at which time to my astonishment, in place of finding patent referring to Diagonal Rods, as previously stated, to which I supposed he

was making a comparison, I found Patent No. 291,382, dated January 1, 1884, granted to William H. Montz, with the following claim: "As an Improvement in Car Trucks, the hereinbefore described Bolster, composed of the bars A & B, connected together at their ends, and having their centres united and held in relative vertical positions by means of the posts C and bolts D, in combination with the truss rods N, substantially as and for the purposes shown;" the application for which patent was filed September 10, 1883; and the language of which claim is identical with the first claim of my Patent No. 339,913, application for which was filed August 31, 1883. I am at a loss to know how they obtained access to the papers, as I had shown nothing but the drawings. I at once advised the attorney who had secured the patent for us of this state of affairs, and following this the "Case of Interference" was placed at Washington, which resulted in the awarding to me of the Patent No. 339,913, which is substantially all that is shown and claimed by William H. Montz in Patent No. 291,382.

5 *Q.* Have or have not the Lehigh Valley Railroad Company continued to use your invention in question since the decision of the controversy in your favor, and down to the time of filing the bill in this case?

A. They have continually used it down to the present time.

6 *Q.* To what extent?

A. To the extent of all the new cars built by the Lehigh Valley Railroad Company.

7 *Q.* Have or have you not at any time heard an estimate as to the number of cars built on which the Improved Bolster

is used, made by any officer of the company having authority and knowledge to speak on the subject?

A. I have on two occasions information of this character; first, as referred to in the letter of Mr. J. S. Lentz, of October 3, 1883, in which he states that they now have several hundred of these bolsters on the road; in another case of a statement of the business of the Lehigh Valley Railroad Company, as published in the *Railroad Gazette*, which gives the number of the new cars built in 1888 as 2,500. As to the number in use I have no knowledge of my own, except to believe that it is extensively used, as I have myself seen from month to month all new cars built by said Railroad Company equipped with this invention.

(Mr. Carty hands to the witness a copy of the *Railroad Gazette* of June 8, 1888, and refers to pages 362 and 363, and asks the witness to refer to the diagram of the Standard 50,000 pound freight car of the Lehigh Valley Railroad, and asks him:)

8 *Q.* State whether or not this plan or diagram embodies the invention which is the subject-matter of this controversy.

A. It embodies the invention just as it is used and shown in my patents precisely, and covered by the claims referred to in the claims of my patent mentioned in the stipulation, to wit: the second claim of Patent No. 314,459, and the first, third and fourth claims of 339,913.

Q. 9. What have been your special advantages to enable you to make the improvements in question?

A. By being brought into contact daily with the car equipment of our own system—the Pennsylvania Railroad—as well as cars from a large number of the railways of the

country passing over our system. The failures of this particular part of the truck being brought prominently before us in the shape of car repairs daily.

Q. 10. How long have you been in this special business in connection with car inspection?

A. Since November, 1878.

Q. 11. What was your business prior to that?

A. I was a car builder in the shop at Renova, Pennsylvania, in the employ of the Pennsylvania Railroad Company.

Q. 12. How long?

A. Since October, 1872. From that date on, continuously, to this, I have been connected with the business.

Q. 13. Are you familiar with taking Patents, making drawings and writing specifications?

A. Yes, sir.

Q. 14. Are you familiar with the state of the art in the matter of car trucks generally, and bolsters for car trucks?

A. I am.

Q. 15. Prior to February, 1882, as the date showing the bolster invented by you, had you ever seen as published or known as in practical use a bolster similar to the one invented by you?

A. I had not.

Q. 16. Have you examined the specifications, drawings and claims of the patents, and the publications referred to in the defendant's answer in this case?

A. I have.

Q. 17. Is or is there not anything contained in any of them anticipating your invention?

A. There is not. The publication referred to in the answer, known as the Car Builders' Dictionary, by Matthias N.

Forney, published in New York City in the year 1879, and also the revised edition of the same published in 1884, refers to the construction of the sides of the truck, and while similar in appearance, they differ widely in construction and strength. The form referred to is the form further referred to in paragraph 12 in the answer to the bill which states the same as known and publicly used in the City of New York and elsewhere by the N. Y. C. & H. R. R. R. Co., and known to William Buchanan and others, employees of the said Railroad Company. As previously stated, while the appearance is the same in the N. Y. C. & H. R. R. R. truck as in use at the time of the publication of the dictionary referred to, since which time, however, its use has been discontinued on account of a defect in the construction of the feature known as the Auxiliary Arch Bar or Side Iron.

Q. 18. Do you know anything further to the advantage of the complainants in this case?

A. A further advantage in the use of the bolster or invention in question, is as follows: The fact of the large margin of strength contained enables us to carry the heavy loads now placed upon the cars of increased capacity, by a central support known commonly as the centre plate; while with the ordinary form of wooden bolster a large percentage of this load, on account of the weakness of the bolster, is carried upon what is known as the side bearings of the bolster, which occasions an extraordinary amount of friction between the truck bolster side bearings and top bolster side bearings of the car, and also a large amount of friction for this same reason between the flanges of the wheels and the rails of the track, the result of which is that a larger percentage of power is required under such, conditions, to move a given

number of tons over a given piece of railway, than is required if the load is supported by a central support, as is the case with the use of the iron bolster in question. Hence, a great saving from the transportation standpoint, as well as effecting economy in the renewal of these parts from the maintenance of car.

Mr. Carty offers in evidence the file wrapper of caveat of Harry C. McCarty, filed September 30, 1882, which is marked "Complainants' Exhibit, No. 1."

Also Letters Patent granted to Harry C. McCarty, March 24, 1885, No. 314,459, together with assignment thereof, dated June 6, 1884, of a one-half interest in said Patent to John F. Bickel, one of complainants, and file wrapper of said Patent, which said Letters Patent and assignment and file wrapper are marked "Complainant's Exhibit, No. 2."

Also Letters Patent granted to Harry C. McCarty, April 13, 1886, No. 339,913, together with assignment thereof, dated August 8, 1883, of a one-half interest in said Patent to said John F. Bickel, and file wrapper of said Patent, which said Letters Patent and assignment and file wrapper are marked "Complainants' Exhibit, No. 3."

Also the file wrapper of the interference proceedings between the said Harry C. McCarty and William H. Montz, which is marked "Complainants' Exhibit, No. 4."

Also in connection with the interference proceedings Letters Patent granted to William H. Montz, dated January 1, 1884, No. 291,382, marked "Complainants' Exhibit, No. 5."

Also copy of letter of John S. Lentz to Harry C. McCarty, dated October 17, 1882, marked "Complainants' Exhibit, No. 6."

Also copy of letter of Harry C. McCarty in reply thereto, dated October 24, 1882, marked "Complainants' Exhibit, No. 7."

Also plan or drawing identified and referred to by preceding witness, dated February, 1882, marked "Complainants' Exhibit, No. 8."

Also letter of Harry C. McCarty to John S. Lentz, dated October 3, 1883, and marked "Complainants' Exhibit, No. 9"

Also reply of John S. Lentz to said letter of Harry C. McCarty, marked "Complainants' Exhibit, No. 10."

Also diagram produced by preceding witness and referred to in his testimony and marked "Exhibit Complainants' Diagram, No. 11."

Also *Railroad Gazette* of June, 1888, pages 362 and 363, which said pages it is agreed shall alone be considered as in evidence, and not the entire *Gazette*, the same being marked "Complainants' Exhibit, No. 12."

(The foregoing testimony was taken by consent in the absence of counsel for defendant, subject to his exception. Counsel now being present objects to so much of the testimony of the witness, Harry C. McCarty, as refers to the patents and printed publications set forth in the defendant's answer, the same not having been offered in evidence; and to so much of the testimony of said witness as relates to devices not described and claimed in his Letters Patent, Nos. 314,459 and 339,913, including exhibit marked "Exhibit No. 11," and as the file wrappers and contents of the said patents and of the proceedings in interference have not yet been produced, the defendant reserves the right to examine the witness with respect to the same when they are produced.)

Counsel for defendant here produces blue print drawings, showing construction of the trucks used by the defendant, which in due season he will offer in evidence for the defendant, the same now being marked "Defendant's Exhibit Standard Truck for Cars, John S. Lentz, M. C. B. L. V. R. R., No. 1, (in red pencil on face) and No. 2; and Standard Truck Packerton Shops, John S. Lentz, M. C. B.;" and also smaller sized drawing marked "Diamond Truck Bolster." And it is hereby stipulated and agreed that the said drawings (four sheets) may now be used by either party.

Mr. Carty proceeds with the examination of Mr. McCarty in connection with the stipulation just mentioned.

Mr. Carty hands the witness the three large sheets, blue prints first mentioned, marked respectively as above, and asks witness:

Q. 19. Please state whether or not the car truck here shown, with bolster, embodies substantially your invention as shown in the Letters Patent to you in controversy in this case?

A. They are substantially the same.

Q. 20. State particularly, and in detail, explaining by reference to figures the parts so as to be comprehensible in the testimony, wherein the truck and bolster shown in these diagrams is substantially similar to your invention?

A. Referring to Patent 339,913, Claim 3, and to drawing marked "Standard Truck Packerton Shops," John S. Lentz, M. C. B., 4–27—'83, the bolster or lower bar in Claim 3 G on No. 339,913, is identical to the lower bar on the blue print which I now mark with letter G in red lead pencil, in combination with the arched upper bar F, having its ends bearing against said flanges. The guide plates P are the same as I have

marked letter P in blue print bolted to the ends of said bars under the same. The stops or blocks M are substantially the same as those marked M on the blue print inserted between the bars F and G near their ends; and the pillars H are the same as those marked H on the blue print, also interposed between the same bars, as stated. The upper bolster of the truck composed of the bent bar F, and bar G, and interposed columns as marked on the blue print in combination with the plates P as marked on the blue print secured beneath the bars F and G as marked on the blue print at their ends, and notched or grooved on their sides to receive the columns B as marked on the blue print.

In the Patent No. 314,459, in a car truck, a bolster consisting of upper and lower bars as marked on blue prints F & G (this applying both to blue prints marked in red pencil on their face No. 1 and No. 2) supporting angle irons, which on blue print No. 2 is substantially the same as posts or pillars or columns ordinarily termed in car construction, marked in both No. 1 and No. 2 H. I will also embrace under the head of these supporting angle irons the pillars, columns or blocks M, and also M on No. 1 and No. 2, being in either case parallel to the upper and lower bars and bolted thereto substantially as and for the purposes set forth. Also, on No. 2 the end caps or casting P, as marked P on No. 1 and No. 2, being substantially that as set forth and shown in Patent 314,459. Plan No. 3 being a plan of No. 2 the parts referring to No. 2 are the same.

Q. 21. Referring to the diagram marked "Diamond Truck Bolster," please indicate in the same manner wherein the same substantially embodies your invention as shown in the claims referred to in the respective patents shown in the bill?

A. This diagram, "Diamond Truck Bolster," of course, is

in its present form made for the use of the blacksmiths for their own guidance, inasmuch as the end castings supporting the posts or pillars or columns are omitted, it being substantially the same, however, as blue prints No. 1 and No. 2 in regard to upper bolster bar F and lower bolster bar G.

Q. 22. Referring to your respective Patents Nos. 314,459 and 339,913, in connection with the claims to which this controversy has been limited, what is the main and substantial difference between these two patents, so far as regards the invention?

(Objected to; the patents being the best evidence.)

A. The substantial difference is in the case of 339,913 a truss rod is shown, that being one of the features embodied in the early stage of the invention of the bolster. Very soon after which it was found that the form of this bolster possessed a very wide margin of strength over that required, without the use of this truss rod, in dispensing with which not only simplified the construction, but made it equally substantial for the purposes set forth, and hence it was omitted in the experiments and in the application for 314,459, that being the only practical difference between the two inventions.

Q. 23. Referring to the patent of William H. Montz, January 1, 1884, No. 291,382, already in evidence in connection with the truck shown on defendant's diagram No. 2, called the "Standard Truck," state which claim of this patent is represented in this diagram?

(Question objected to by counsel for defendant for the reason that any reference to the Montz Patent inquired of is immaterial and irrelevant to the issue.)

A. Claim No. 2.

Q. 24. Please explain in detail wherein and to what extent the truck shown in diagram No. 2 is similar to claim No. 2 in the Montz Patent?

(Same objection by counsel for defendant.)

A. Being composed of bars, marked on diagram No. 2 F & G, connected together at their ends, having their centres united and held in relative vertical position by means of the posts marked on No. 2 H. That also is substantially the same as Claim No. 1.

Q. 25. Is or is not the truss rod shown in the diagram?

A. The truss rod is not shown in No. 2. The bolster is substantially the same, the construction being identical. It also applies to Claim No. 1 in the same Patent 291,382 as a means for connecting the bolster to the truck frame the cap marked P on diagram No. 1 and diagram No. 2.

26 *Q.* Referring to the plan on diagram of February, 1882, marked "Complainants' Exhibit No. 8," in connection with the truck shown on defendant's diagram No. 2, please state in detail any similarity or difference in substantial construction so far as either diagram embodies the elements of your invention, as shown in the claims to which this controversy is limited under the patents in evidence.

(Counsel for defendant objects to the question, for the reason that the diagram No. 8 is included in his previous objection to matter not covered by the patents said to be infringed, and as immaterial and irrelevant to the issue.)

A. Upper bar F and lower bar G on diagram 2 is substantially the same as those marked F and G on "Exhibit No. 8." Supporting columns, posts or pillars on diagram 2, are substantially the same as those marked H on

diagram 8. Interposed blocks M marked on No. 2 are the same as those marked on No. 8. Caps P, on diagram 2, are the same as those marked P on diagram 8.

27 *Q.* When did you first see a car constructed by the defendant company, or under the supervision of Mr. Lentz or Mr. Montz, or anybody else for the company, with a bolster and truck similar to the defendant's diagram No. 1 and complainant's "Exhibit No 8," without the truss rod?

A. This was first noticed during the early part of 1883, some months after sending the blue prints, as requested in letter of Mr. Lentz under date of October 17, 1882.

(Question and answer objected to as irrelevant and immaterial.)

28 *Q.* At the time that Mr. Lentz asked you to let him have the specifications and drawings of Letters Patent 314,459, were you aware of the existence of a patent to Mr. Montz of January 1, 1884? or did Mr. Lentz directly or indirectly inform you of the existence of any invention of his, Lentz, as shown in defendant's diagram No. 1 and No. 2?

A. I was not aware of the existence of such a patent at all, and only became aware of it by the comparison at that time during the reading of the papers that I had brought with me representing Patent No. 314,459. During the perusal of this particular patent by Mr. Montz he raised a question, in order to reply intelligently to which it was necessary for me to look over his shoulder to see the point in question; at which time I noticed his comparing with 314,459 his Patent 291,382, much to my astonishment, which to say the least was very great, inasmuch as I had been left under the impression by previous consultations with Mr. Lentz as to

a comparison of papers that this comparison referred to the patent that they had obtained for what was designated as diagonal brace rods for car trucks. This was my first knowledge of the existence of the claims as specified.

(Question and answer objected to as immaterial.)

29 *Q.* On defendant's diagram No. 1, Standard Truck Packerton Shops, I notice figures 4–27–'83, which I presume indicates 4th month, 27th day, 1883. I now ask you whether the conversation detailed by you in your examination-in-chief, as had with Mr. Lentz in reference to the construction of the truck with the bolster with or without the truss-rods, took place before this date?

(Objected to as immaterial.)

A. It did take place before this date.

Cross-examined.

By Mr. McCallum:

30 ×*Q.* Do the blue prints defendant's "Exhibits L. V. R. R. Standard Truck of Cars Nos. 2 and 3, and Standard Truck Packerton Shops," show the construction of the trucks used by the defendant, which you claim to be an infringement of your patents?

A. Yes, sir.

31 ×*Q.* Do either of the trucks shown by blue prints drawings, or any of the trucks belonging to defendant that you have seen embody in their construction truss-rods, such as are described in your Patent No. 339,913?

A. The blue prints do not show the truss-rods referred to. The defendants, however, did have trucks in the early

stage of the experiments that had truss-rods. As previously stated, however, sufficient strength was found in the bolster that enabled them to dispense with it, thereby simplifying it in construction.

32 ×*Q*. Do you make any claim that the defendant has infringed your patent by the use of truss-rods in such trucks ?

A. No, sir.

33 ×*Q*. I understand Patent 339,913 describes the embodiment of your alleged invention. Is that correct ?

A. Not really, because we had sketches made for bolsters for any trucks, which is shown in " Exhibit No. 8 ;" but in order to make a complete truck in itself, this application was made. " Exhibit No 8," showing a design for any truck, with slight changes that might be necessary in plates P.

34 ×*Q*. The truck bolster shown by " Exhibit 8 " is not the same as that shown by Patent 339,913, is it ?

A. Substantially the same, with the absence of the truss-rod, and arranged so that the truss-rod may be applied or not, the general results being found that the structure attained sufficient strength without the use of the rod.

35 ×*Q*. Is not the part marked P on " Exhibit 8 " in the form of a cast metal box or cap, enclosing the ends of the bars of the bolster ?

A. The cap P in " Exhibit 8 " is practically and substantially the same as shown on any of the diagrams heretofore referred to, inasmuch as it is a bolster guide and a spring cap combined, which is the case in either instance cited by them in diagrams 1, 2 and 3, as well as all of those here referred to, the object being in cap or plate P to make it serve as a bolster guide, the slight changes that may be found simply being

necessary on its sides to accommodate the bolster to the particular form of truck to which you may desire to apply the bolster, the functions of this cap being the same in any case.

(Answer objected to as not responsive.)

36 × *Q*. You do not claim to be the inventor of such caps, do you?

A. Not necessarily. A cap, of course, is necessary for a bolster guide, and is shown in any or all of the diagrams or patents hereinbefore mentioned, for the reasons previously stated. Any form of cap can be used, and be the mechanical equivalent of any other that is a bolster guide and spring cap.

37 × *Q*. When you refer to the "diagrams hereinbefore referred to," you include some or any of the patents set forth in the answer to the bill as anticipating your invention. Was it a common thing before your invention or not?

A. Yes, sir; it was a common thing, a guide for bolster or cap. The same as ordinarily used on the wooden bolster that has been in use for years, to which is attached what is commouly known as bolster guides or column slides. These features being substantially the same as what might be termed a plate or cap P as referred to, to keep the bolster in position on the truck.

38 × *Q*. Referring to the first claim of your Patent 339,913, is it not for a combination of the bolster described with the truss-rod substantially as and for the purpose set forth?

A. That appears to be the case.

39 × *Q*. Then if the defendant does not use the truss-rods in the construction of its trucks, can it have this combination?

A. I would not understand that it would have this specific combination.

40 ×*Q.* I now show you a diagram sketch of one-half of a bolster referred to in the third claim of Patent 339,913; please examine the same and say if that is a correct representation taken from your patent of the subject matter of the third claim, and if the language of the claim is properly quoted?

A. It appears to be identical.

(Defendant's counsel offers the sketch and claim in evidence, and the same is marked "Defendant's Exhibit, McCarty's third claim of Patent 339,913.")

41 ×*Q.* The lower bar G, as shown and described in the claim, has flanges Q turned up on its ends, has it not?

A. It is so represented.

42 ×*Q.* And the ends of the upper bar F bear against said upturned flanges, do they not?

A. It is so represented; it is not essentially necessary.

43 ×*Q.* Why do you say it is not essentially necessary when it is included in the claim?

A. It is a mechanical equivalent to just putting or placing the ends together, as is quite commonly found in blacksmithing work and taking a light weld on them, the latter being a mechanical equivalent to the flange of the bottom bar abutting on or abutting against the top bar, either of which producer the same results substantially.

44 ×*Q.* Have you shown and described any other method of securing the ends of the upper and lower bars in yous specifications of this Patent 339,913?

A. In this Patent 339,913 there is an article in the specification reading as follows: "The upper bolster is formed of

the top iron bar F and lower iron bar G, the bar F being arched and bolted at its ends to the bar G, and between the bars are the supporting metallic columns H, which rest on the bar G, on which the crown or central portion of the bar F rests. Said bars and columns being firmly bolted together." Thus implying that all ordinary modes of construction or mechanical equivalent of that shown can be used, it only being a question of uniting the ends.

(Answer objected to as not responsive.)

45 ×*Q*. Is not the particular construction of the part referred to and described in the specification as follows: "The ends of the bar G are turned upwardly, forming flanges Q against which the ends of the bar abut."

A. The particular construction of the part referred to is explained in a measure in the clause just read, while the clause previously read and marked 30 explains fully of any form, or in other words the mere connecting of the ends by bolts. The connection of the ends being essential, and the detail of connecting them not necessarily in each case the same.

46 ×*Q*. Does not claim 3 read, "The lower bar G having flanges Q turned up on its ends, in combination with the arched upper bar F, having its ends bearing against said flanges, etc.?"

A. This question I believe was answered in the former question asked.

47 ×*Q*. Can't you say it is or is not?

A. That is the wording of the article.

48 ×*Q*. Are not the claims preceded by the declaration, "What I claim as new and desire to secure by Letters Patent is, etc.?"

A. That appears to be the case.

49 ×*Q*. Now, do I understand you to be of the opinion that you are not limited by the language of your claim to the device or combination of devices, you say you have invented, and which are specifically set forth in the claim?

A. Yes, sir; I am of the opinion that we are not limited, for the reason that the uniting of the ends can be done as specified, which is a mechanical equivalent to that particular specified, it not being necessary absolutely to follow out in detail in each case any special form of uniting the ends, any form of uniting them producing the same results.

50 ×*Q*. Has the defendant united the ends of the upper and lower bars of the bolster by having the lower bar made with flanges turned up on its ends and having the ends of the upper bar bearing against said flanges in the construction you claim to have infringed your patent?

A. I cannot say that this particular form has been followed in all cases.

51 ×*Q*. Do you know of any case in which it has been followed?

A. I cannot say that this particular form has been followed.

52 ×*Q*. I ask you whether in any case it has been followed?

A. I do not know that it has been followed at all, or to any extent.

53 ×*Q*. Such particular construction is not shown by the blue print?

A. The blue prints are not sufficiently shown in detail to determine that.

54 ×*Q*. Do they show it at all?

A. It does not show how they are united.

55 ×*Q*. Can't you say whether it does or does not show that particular thing?

A. It does not show that particular thing; it does not show anything.

56 ×*Q*. Referring again to said third claim, does not the combination include the guide plates P bolted to the ends of said bars under the same?

A. Yes.

57 ×*Q*. And are not the said guide plates P, described as located on the under side of the bar G, and so shown by the drawings?

A. Yes.

58 ×*Q*. Do you find such a plate or plates secured to the under side of the lower bar in defendant's truck?

A. Yes, sir; I do.

59 ×*Q*. Please point it out?

A. It is the parts I have marked P on diagrams 1 and 2.

60 ×*Q*. Is not said part you have marked P a cap-piece, which encloses the ends of both upper and lower bars, and against which the ends abut, and is it not just a cap-piece as you have referred to as being an old and well-known device?

A. It is a cap-piece or plate, the details and functions of which are the same as shown in Patent 339,913. It is the mechanical equivalent of the old column guide or slide.

61 ×*Q*. You say the details are identical. You mean to say that the construction of the plate P, as described in your patent secured to the under side of the bar G, and whose sides are notched or grooved, as at *a*, to receive the columns B of the side irons is of the same constructions as the cap-piece you have marked P on the blue prints, the same detailed construction as cap-piece you have marked P?

A. Substantially the same detailed construction, filling the same functions.

62 ×*Q.* Do you mean to say that the constructions of the two things do not differ in any respect?

A. I mean to say that they do not differ in any respects.

63 ×*Q.* Is there not this difference between them: Your plates, P, are located entirely beneath the lower bar G, while the sides of the cap-piece, shown by the blue prints, project upwardly beyond the lower bar, and enclose both the upper and the lower bars?

A. This difference exists for the reason that there is different widths of iron used in forming bolsters. If narrow iron is used the space between the columns is taken up by the sides of the plate or cap.

64 ×*Q.* But in the particular plate, P, shown in your patent, the sides do not project up; is that the fact?

A. Yes, sir.

65 ×*Q.* What is the difference between the third and fourth claims of your Patent 339,913, as you understand it?

A. They are substantially the same.

66 ×*Q.* What is the actual difference, if any?

A. Well, the actual difference, if any, is, as previously stated, any form of ends or any means of connecting the ends can be utilized, as the slight difference existing in such means that may be employed is mechanically and substantially the same.

67 ×*Q.* I notice that in the fourth claim the specific limitation as to the lower bar having flanges Q, turned up on its ends is omitted; does that make any difference in your opinion in the scope of the claim?

A. None whatever, for the reason previously stated, the means of connecting the ends being substantially the same in any of the ordinary modes of blacksmith work, in attaching the ends of bars of this character.

68 ×*Q.* I notice further that the part marked M is referred to as stops or blocks in the third claim, and as columns in the fourth claim. Does that make any difference, in your opinion?

A. None whatever.

69 ×*Q.* If both claims are for the same combination, why do you make two claims for it?

A. No reason, except having a broader claim.

70 ×*Q.* Which is the broader claim as you understand it, and why broader?

A. I would not be able to determine that question. It is an open question, to my mind.

71 ×*Q.* You cannot tell?

A. I cannot tell.

72 ×*Q.* Presuming you are limited to the precise and identical construction, and relative arrangement of parts which go to make up the combination of said third and fourth claims, do you find the same parts of identically the same construction and arrangement in defendant's truck?

A. Substantially identical.

73 ×*Q.* The question presupposes that you are not entitled to equivalent devices, but to the identical devices. Please answer it.

A. They are not identical in every detail of construction.

74 ×*Q.* As I understand the particular construction of the plates, P, having the notches or grooves, at *a*, as described

in the fourth claim, to receive the columns B of the side irons, the notched parts project laterally beyond the lower bars of the bolster, but do not project up above the lower bar; is that correct?

A. That is the way it is shown, it not being essential to be in this form, this feature being governed by the width of iron used in the bars forming the bolster.

75 ×*Q.* I have made a sketch or plan and side view representing the guide plate, P, of the third and fourth claims of 339,913 on same sheet as "Defendant's Exhibit, Third Claim, 339,913." Please state if this is a clear representation of the guide plate, P, referred to?

A. It appears to represent the plate.

76 ×*Q.* And you think that the cap-piece used in defendant's truck, and marked by you with the letter P, on defendant's blue print drawing is an equivalent device; is that your opinion?

A. Yes, sir.

77 ×*Q.* You also think, if I understand you aright, that you are not limited by your patent to a plate of this specific construction shown?

A. That is my understanding.

78 ×*Q.* And you think that the defendant has infringed your Patent 339,913, through the use of the caps in the combination?

A. Yes, sir.

79 ×*Q.* Referring to Patent 314,459, you do not find the combinations covered by the first and third claims in defendant's truck, I understand, and do not make any claim for infringement of said claims?

A. I am not clear about that. The first claim appears to

be one that should be considered. I am not prepared to answer that particular point.

80 ×*Q*. Have you not limited your claim for infringement for the matter of the second claim?

A. I would not consider it so.

81 ×*Q*. Do you claim infringement of the first claim?

A. No, sir.

82 ×*Q*. Do you claim infringement of the second claim?

A. Yes, sir.

83 ×*Q*. Do you claim infringement of the third claim?

A. I so consider it.

Mr. Carty. In view of the question and in order to avoid misunderstanding it is agreed by counsel that the third claim of Patent No. 314,459 shall be added to the claims heretofore agreed upon as being claimed to be infringed.

84 ×*Q*. When you were comparing your Patent 314,459 with the defendant's trucks shown by the blue print exhibits, I think you said substantially that you found your angle irons in the pillars marked H, and also included in this term angle irons, the short pillars marked M on said drawing; is that correct?

A. That appears to be correct.

85 ×*Q*. So far as these parts are concerned, namely, the upper and lower bars of the bolsters, the pillars H and the blocks M which you have marked on the blue prints, are they not substantially the same as shown in your Patent No. 339,913?

A. They are.

86 ×*Q*. And do you think the same features are covered by your Patent 314,459?

A. I do.

87 ×*Q*. Do you think that the subject-matter of the second claim of said patent 314,459 is the same as that covered by your Patent 339,913?

A. That to me is an open question. I cannot answer that.

88 ×*Q*. You have in your direct testimony above referred to said substantially that you find what is claimed by this second claim of Patent 314,459 in the blue print; and in your answer to the third last previous question stated that you find the same features in Patent 339,913, as shown in the blue prints referred to by you; now cannot you say whether you claim infringement in this respect by reason of the second claim of Patent 314,459, or by reason of any claim of Patent 339,913, or where you clalm that both patents are infringed by the use of the constructions referred to?

A. As I understand it the infringement applies to both.

89 ×*Q*. You think that both patents cover the combination of a bolster consisting of upper and lower bars connected together at the ends and having their centres united by posts or angle irons and bolts to unite them together; is that your belief?

A. That is my understanding.

90 ×*Q*. Do you understand that you can have two different patents covering the same thing?

A. I do not so understand it. The features differ in each case, though in some respects substantially the same.

91 ×*Q*. What is the difference between your two patents so far as relates to the construction and arrangement of the parts which support and unite the upper and lower bars of the bolster?

A. We understand that the substantial difference is that in

one case a truss rod is provided in case of its being necessary, and in the other it is not.

(Answer objected to as not responsive.)

92 ×*Q*. Question repeated. The question refers to the uniting the upper and lower bars?

A. As we understand it the substantial difference is in the use of angle irons if desired, or posts or columns or pillars if desired.

93 ×*Q*. The use of posts or pillars for this purpose being described in your Application for Patent, filed August 31st, 1883, do you think it would be new or the proper subject of a patent in an Application filed June 5th, 1884, as an element of the same structure described in both patents?

A. The fact of our being able or permitted to use angle irons if desired would be new.

94 ×*Q*. Does not the novelty of this part of your device described in 314,459 consist in the use of angle irons in place of posts as described in Patent 339,913?

A. I do not consider that this is the entire novelty, for the reason as is stated, reading as follows: "Interposed "between the bars of the bolster at the centres are bars or "angle irons."

95 ×*Q*. Does the same paragraph not also say that "the bolts F′ passing through the centre plate, the upper bar D′ the flanges of the bars or angle irons G, and the lower bar D″ forming a strong structure," the term bars and angle irons G meaning the same thing shown?

A. That paragraph embraces substantially what has been read with the exception of the latter clause.

96 ×*Q*. Referring to the second claim, does it not cover a bolster consisting of upper and lower bars and supporting

angle irons between the bars said angle irons being parallel to the said upper and lower bars and bolted thereto through their flanges; does this language not correspond with the language of the paragraph above quoted, to wit, where it refers to the bolts passing through the flanges of the bars or angle irons, and further, is not the term angle irons described as embracing the shape of iron known as channel bars?

A. This appears to be the case.

97 ×*Q.* Is there any description or reference in the patent to the use of pillars like the parts you have marked H on defendant's drawings?

A. The use of columns is referred to in the specification in clause marked 50.

98 ×*Q.* Do you refer to the columns marked D‴?

A. Yes, sir.

99 ×*Q.* These columns D‴ are not used for uniting the central part of the two bars of the bolster, are they?

A. They are used for uniting the bars, not necessarily the central parts.

100 ×*Q.* The columns you mark H in the defendant's drawings are for uniting the central part?

A. That appears to be the case.

101 ×*Q.* The angle irons G in your patent are for uniting the central part of the bars, are they not?

A. That is the intention, the way they are arranged?

102 ×*Q.* I understand the construction and arrangement of the angle iron G and bars D′ and D″ as shown by figure 5 of the drawing of Patent 314,459, is that correct?

A. It is so represented.

103 ×*Q.* And I understand further that the bolts F′ pass

down through the edges of the bars D′ and D″ to the flanges of angle irons G, is that correct?

A. That appears to be so shown.

104 ×*Q.* Look at the sketch now shown you and state if that is a correct representation of a cross section of the two bars and the angle iron, and the bolts as described in your Patent 314,459?

A. That fairly represents it.

105 ×*Q.* Do you find such a construction and arrangement of parts in defendant's trucks?

A. I do not, but substantially the same.

106 ×*Q.* When you say substantially the same in answering the last question, you mean, do you not, the pillar you mark H?

A. The pillar marked H, or any means to separate the bars, the upper and lower bars of the bolster, which is an essential feature in the construction of the bolster.

(Defendant offers in evidence sketch just referred to in the answer to the last previous question, and it is marked "Defendant's Exhibit, Second Claim Patent, 314,459.")

109 ×*Q.* You are still of the opinion are you that the third claim of Patent 339,913 is infringed by the defendant's construction of trucks?

A. I am of such opinion.

110 ×*Q.* I find in said third claim the following language used with respect to the construction of the lower bolster bar D″ namely, "having its ends extended beyond the ends of the bar D′ and folded back against them." Please look at the sketch now shown you and state if that is the construction referred to?

A. That reasonably represents the construction referred to.

(Sketch offered in evidence, marked "Third Claim Patent, No. 314,459.")

111 ×*Q.* Do you find any such construction of the bolster bars in defendant's trucks?

A. Practically the same construction.

112 ×*Q.* Is the end of the lower bar folded back against the end of the upper bar in defendant's construction?

A. The drawings do not appear sufficiently clear to show exactly in detail the manner of securing the ends.

113 ×*Q.* Do you know of your own knowledge that defendant has ever constructed the bolster of a car truck in that way?

A. I cannot say. The means of connecting the ends are substantially the same, whether the bar is folded back and bolted or whether the ends of the bars are united by any other means, as ordinarily employed in blacksmithing work.

114 ×*Q.* Do you mean to be understood as saying that it is quite immaterial whether the end of one bar is folded back against the other or whether the two ends are brought together in any other way?

A. That is the understanding.

115 ×*Q.* Did the model that you had at Niagara in 1882 have the truss rods like Patent 339,913?

A. The bolster in the model was constructed without the rods, in a form to be used with or without as previously stated.

116 ×*Q.* You mean to say there were no truss rods on the model you had?

A. Yes, sir; but a bolster designed to admit the use of rods if desired, it being a question whether the bolster pos-

sessed sufficient strength without the use of rods. This we very soon demonstrated it did.

(The latter part of the answer objected to as voluntary and not responsive.)

117 ×*Q*. You say you sent Mr. Lentz a drawing as requested by him in the latter part of October, 1882; did that drawing show the truss rods?

A. The drawing showed a form of bolster that admitted the use of a truss rod if desired; it also showed the rod on the drawing.

(The first part of the answer objected to as voluntary and not responsive.)

118 ×*Q*. The drawing did show the truss rods?

A. The drawing shows the rod; a bolster formed to be used with or without the rod.

119 ×*Q*. Was the drawing the same as shown by Patent 339,913?

A. Practically the same, I believe.

120 ×*Q*. What was your object in showing this model to the members of the Master Car Builders' Association?

A. To get a general expression of opinion as to the practicability of the form of bolster for a car truck for the then increasing capacity of freight cars. It also being a common practice at such conventions to exhibit railway appliances for general information of members of the Association.

121 ×*Q*. Was it in carrying out this practice that you also gave Mr. Lentz the drawing referred to?

A. No, sir, it was strictly in compliance with his request in letter of October 17, 1882.

122 ×*Q*. You did not apply for Letters Patent until August 31, 1883?

A. That appears to be the date of the Application.

123 ×*Q.* Was that before or after Mr. Lentz had experimented with the bolster?

A. I cannot define the dates that his experiments covered.

124 ×*Q.* It was nearly ten months after you sent him the drawings, was it not?

A. Yes, sir.

125 ×*Q.* You knew that Mr. Lentz was experimenting with bolsters without truss rods and had put them in use on trucks before you applied for Patent No. 314,459, did you not?

A. Yes, sir; it was substantially the same as explained to Mr. Lentz; as represented in drawing marked 8, as being a desirable form to be used without truss rods.

(Here counsel for defendant renews his objection to Exhibit referred to as No. 8 as immaterial and irrelevant, and objects to so much of the foregoing answer as refers to it as being non-responsive and voluntary.)

The witness: I desire to add in addition that the drawing furnished Mr. Lentz was arranged to be used without the truss rod as discussed with him as being possibly the most desirable form to construct the bolster as shown, no changes in the form of the bolster being necessary whatever to use the truss rod or dispense with it. Such discussion taking place both at Niagara Falls, and after that date prior to any experiments made to my knowledge.

126 ×*Q.* In your direct testimony you said that the drawing sent to Mr. Lentz, in answer to letter of October 17, 1882, was in all respects the same as shown by your Patent 339,913, or words to that effect. Do you now say that it was different from that shown in the Patent?

A. I stated that it was substantially the same, having a bolster designed to be used with or without a truss rod.

127 ×*Q.* You have spoken about an Interference with Patent granted to Mr. Montz. Was there any claim in Interference except the one for the combination of the bolster with the truss rods, now the first claim of your Patent 339,913?

(Counsel for defendant in putting this question and others respecting the Montz Patent wishes it to be understood that his examination is *de bene esse.*)

A. As I understand it the claim in the case of Interference embodied all the features as here shown in this Patent.

128 ×*Q.* Do you know for a certainty that there was any other claim in issue than what is now the first claim of your Patent 339,913?

A. I can only answer that by stating that, as I understand the case from my attorney, it was the case as it stands in its entirety, embodying all the features.

129 ×*Q.* Do you know if there was a claim for a bolster, composed of two bars connected together at their ends and having their centres united and held in relative vertical positions by means of posts and bolts, by itself or without being claimed in combination with the truss rods?

A. I can only answer that as I answered the other question.

(As before noted, counsel for defendant reserves the right to call the witness for cross-examination when the certified copies of file wrappers and contents of the Proceedings in Interference are produced.)

130 ×*Q.* Did Mr. Montz dispute your right to the claims that were in Interference by taking evidence or otherwise in the matter of Interference?

A. I understood from my attorney, Mr. Wiedersheim, that no evidence was taken—no one appearing for Mr. Montz in the case.

131 ×*Q.* Then I understand that the claim was allowed to you on your own affidavit as to the date of invention, no testimony having been taken in support of the same; is that correct?

A. No; the other side did not appear, and Mr. Wiedersheim did not send for me. Your statement seems correct. This, evidently, was omitted on account of counsel for defendant not appearing, as I had been previously advised by Mr. Wiedersheim that I would be required to appear at that time, and I was advised by him, on account of the non-appearance of the other party, it would not be necessary for me to come to Washington.

132 ×*Q.* When was it that you say you first discovered about the Montz Patent 291,382, in looking over Mr. Montz's shoulder?

A. I cannot give the dates of this time. It was evidently a short time after the allowance of the Patent 291,382, between that time of course and the allowing of the Patent 314,459. I cannot define the date.

133 ×*Q.* The Montz Patent was granted January 1, 1884. Can you say it was in the month of January, 1884, when you first saw the claim of the said Montz Patent?

A. I cannot say; it was not in the month of January.

134 ×*Q.* When was it, as near as you can remember?

A. As previously stated, I cannot define the date.

135 ×*Q.* Was it in the year 1883?

A. Certainly not.

136 ×*Q.* Was it in the year 1884?

A. I will have to answer that the same as the prior question, I cannot define the date. And as previously stated the time was evidently between the allowance of 291,382, January 1, 1884, and the allowance of my patent.

137 ×*Q.* Was it in the summer or the winter?

A. I cannot state that.

138 ×*Q.* You expressed astonishment at their having seen your papers or got at your papers. How do you know they ever saw your papers respecting your patent?

A. I do not know, and have not so stated.

139 ×*Q.* You have quoted the second claim of the Montz Patent and say it is the same thing that you claim as your invention in your application for Patent No. 339,913; can you swear that you made that claim originally when your application was filed?

A. I cannot swear at this time, inasmuch as I am not in possession of the records of the application as filed August 31, 1883, but think it is substantially the same as referred to.

140 ×*Q.* Can you swear that that claim was made in your application before you saw the same claim in the Montz Patent referred to?

A. The answer to that is practically the same. The records will show conclusively the way it was. I do not wish to swear to a thing that happened years ago that is not before me. These are features that it would not be possible for me to answer in detail at this length of time, and consequently I cannot answer the question as put.

141 ×*Q.* Have you, and the joint owner of the patents, Mr. Bickel, ever licensed any railroad company to use the invention described in the patents?

A. Yes, sir.

142 ×*Q.* What railroad company?

A. The Pennsylvania Railroad Company.

143 ×*Q.* Has the Pennsylvania Railroad Company ever built any trucks having bolsters like those described in the patents?

A. They have built trucks with bolsters substantially as shown in Patents 314,459 and 339,913.

144 ×*Q.* What royalty do they pay?

(The question objected to as not relevant to the issue and not cross-examination.)

A. I cannot answer it.

145 ×*Q.* Does any other road use them besides the Pennsylvania Railroad?

A. None to my knowledge, except the defendant.

Re-examined.

By Mr. Carty:

146 *R. D. Q.* Can you furnish an existing copy of the drawing given to Mr. Lentz in answer to his letter of October 17, 1882?

A. Yes, sir; we have a copy of the drawing which I furnished him existing at that time.

147 *R. D. Q.* Have you it with you?

A. Yes, sir.

R. D. Q. 148. Will you please produce it?

A. Yes, sir; substantially the same as here shown, having a bolster to be used with or without a truss rod.

(Witness produces copy of drawing referred to.)

R. D. Q. 149. Is this an exact copy of the drawing furnished to Mr. Lentz?

A. That is an exact copy.

R. D. Q. 150. Made at the same time?

A. Made at the same time.

R. D. Q. 151. Was Mr. Montz present when this drawing was furnished to Mr. Lentz?

A. The drawing was furnished to Mr. Lentz by mail.

R. D. Q. 152. Was Mr. Montz present subsequently at any interview had by you with Mr. Lentz at which this drawing was discussed?

A. I did not see the drawing at any time after furnishing it to Mr. Lentz, although the subject-matter was discussed between Mr. Montz and Mr. Lentz and myself.

(Counsel for complainants offers drawing produced in evidence and requests that the same be marked "Complainant's Exhibit No. 13.")

(Counsel for complainant calls upon counsel for defendant to produce the drawing furnished by the complainant, Harry C. McCarty, to Mr. John S. Lentz, in answer to the latter's letter of October 17, 1882.)

Re-cross-examined.

By Mr. McCallum:

R. × *Q.* 153. This drawing, "Exhibit 13," you have now produced is what mechanics understand as a working drawing, is it not?

A. Yes, sir.

R. × *Q.* 154. It shows all the parts of the structure and the dimensions of each part, does it not?

A. It shows all the parts of the structure and the dimensions of that particular case. The dimensions of the bolster bars being optional with the railway company using the same, the same being a given size of iron ordinarily carried in stock by railroad companies, but in case of any variation from any dimensions that may be given such iron as may be in stock is used for convenience in each case; slight changes in detail of end plates or cap are necessary in order to fill up spaces between the columns B marked on defendant's plan 1 and 2 which is essential in placing bolster in the truck, namely that the space referred to be entirely taken up by the bolster or cap or plate, the size of bolster bars practically governing this feature.

(All of the answer after the words "that particular case," is objected to as voluntary and not responsive.)

R. × *Q.* 155. The drawing, "Exhibit 13," shows a truck of the same construction as the drawing of Patent 339,913, does it not?

A. Substantially the same, in addition to which the form shown is more clearly defined. It shows that the bolster is intended to be used either with or without truss rods, without any change whatever in the bolster.

R. × *Q.* 156. Does not Fig. 1 of your Patent 339,913 show the same construction as the upper left hand figure of drawing, "Exhibit 13?"

A. It does.

R. × *Q.* 157. Is not Fig. 2 of said patent drawing exactly the same as the figures on the upper right hand corner of "Exhibit 13?"

A. Substantially the same, except giving dimensions, showing conclusively that the rod can be dispensed with.

(All after the words "giving dimensions" objected to as not responsive and voluntary.)

R. × *Q.* 158. Is not Fig. 3 of the patent the same as plan of top bolster of said drawing, "Exhibit 13?"

A. I answer the same as the prior question.

R. × *Q.* 159. I desire a more categorical answer—yes or no. Please answer it if you can and are willing to do so?

A. Substantially the same.

R. × *Q.* 160. Is not Fig. 4 of said patent the same as the elevation of the truss rod seat of "Exhibit 13?"

A. Substantially the same.

R. × *Q.* 161. Are not the side bearings and the truss rod bearings shown by "Exhibit 13" of the same construction as shown in the patent drawings?

A. Substantially the same.

R. × *Q.* 162. Is not the part called the column guide and supporting end of "Exhibit 13" the same as the plate P of the patent?

A. Substantially the same.

Re re-direct-examination.

By Mr. Carty:

R. D. Q. 163. Was there at any time more than two years before your application of Patent 314,459, which was filed June 5, 1884, with your knowledge and consent any truck containing the bolster as shown and claimed in your Patent in public use anywhere?

A. Not to my knowledge anywhere.

R. D. Q. 164. So far as your information and knowledge extend, derived from your interviews with Mr. Lentz and Mr. Montz, did they have any or make any claim to an invention of a car truck with a bolster substantially like that set forth and claimed in your Patent 314,459 as existing prior to October, 1882?

A. No, sir.

Re re-cross-examination.

By Mr. McCallum:

R. × *Q.* 165. When did you first make the claim of infringement against the Lehigh Valley Railroad Company?

A. The Lehigh Valley Railroad Company's counsel, I understood, was advised by Mr. Wiedersheim some time in the past two years, the date of which I am not able to fix, but over a year before the commencement of this suit. I do not know the date of my own knowledge.

HARRY C. McCARTY.

Sworn to and subscribed before me this fifteenth day of February, A. D. 1889.

[SEAL] JOHN A. WIEDERSHEIM,
Notary Public.

William L. Holman, a witness produced on the part of complainant, and being duly sworn, examined by Mr. Carty, Counsel for complainant, deposes and says:

Question 1. Please state your name, age, residence and occupation?

Answer. My name is William L. Holman; my residence Renova, Clinton County, Pennsylvania; my age 55 years. I am master mechanic of the Renova shops, Pennsylvania Railroad, Philadelphia and Erie Division.

Q. 2. How long have you been master mechanic at the Renova shops?

A. Since November, 1881.

Q. 3. And where were you before that, and what was your occupation?

A. I was, from May, 1880, foreman of the round-house, and assistant master mechanic. Previous to that I was thirteen years master mechanic of the Kane shops, on the same road and same division.

Q. 4. During the greater part of this long experience, what line of cars have you come most in contact with?

A. With freight cars.

Q. 5. Of your own road, or of other roads as well?

A. Of our own road and other roads as well?

Q. 6. State generally, and in a short way, how you come into contact with the freight rolling stock of other roads?

A. In repairing them at the different shops that I have had charge of.

Q. 7. In other words, is there an interchange of repairs on general trunk lines?

A. Yes, sir.

Q. 8. Do you come into contact with the cars of the Lehigh Valley Railroad?

A. Yes, sir.

Q. 9. What are your special duties as master mechanic at the Renova shops?

A. I have a general supervision over all the works. All orders from our superiors come through our office, and they are issued by me to different departments.

Q. 10. Are you a draughtsman?

A. No, sir.

Q. 11. Are you familiar with drawing?

A. Yes, sir,

Q. 12. How long have you known Harry C. McCarty, the inventor of this bolster for car trucks?

A. I have known him since 1878, and intimately since May, 1880.

Q. 13. Did you, at any time in the past, have personal knowledge of his working on a design for a truck bolster?

A. Yes, sir.

Q. 14. State your first knowledge in this regard; the year and month if you can?

A. I could not give the month; the latter part of 1880, along say in September and August.

Q. 15. State in your own way and describe the nature and character of the truck bolster on which he was working at that time when you first knew that he was working on a design—the general character of it?

A. The truck bolster was what he designated an iron truck bolster. It consisted of two bars; the lower bar turned up at the end, forming a shoulder for the ends of the upper bar to abut against, supported by columns in the centre, bolts

running through the centre plate and down through the columns. Some of his sketches, as far as I can recollect, had an end piece the same as on that blue print, No. 1, (Defendant's Exhibit), and some of the sketches had a plate on the bottom notched on the sides, to act as a pedestal plate. These sketches in the earlier stages were made on yellow wrapping paper.

Q. 16. In what regard did the designs of the truck bolster shown by him, differ from the truck bolsters then in use on the different roads?

A. Why, we had no iron bolsters that I know of. We had all wooden bolsters. I have no recollection of seeing an iron bolster on our system.

Q. 17. Did you ever see any on any other system?

A. Not to my knowledge; I have no recollection of it.

Q. 18. What were the defects of the wooden bolster, generally speaking?

A. The defects were that they were not strong enough to support the loads, and would sag in the middle and allow the side bearings to come together, and they would crack in the centre, necessitating renewing.

Q. 19. In the event of a break-down, what were the difficulties to be contended with as to repairs?

A. In that case we should have to renew the bolster entirely.

Q. 20. Now, state what, if any, advantages over the defects you have stated, exist in the iron bolster truck?

A. The advantage would be that we would get a stronger bolster and a more lasting one; we would not require so many renewals.

Q. 21. In the event of a break-down, what as to repairs?

A. We would simply have to take it out and straighten it up.

Q. 22. Could you or could you not use separate parts?

A. That would be owing to how the break was.

Q. 23. Have you served a time as a practical mechanic in the shops?

A. Yes, sir.

Q. 24. Have you been engaged in the work of constructing car trucks and bolsters for car trucks?

A. Not practically; I superintended it.

Q. 25. Where it has been done to a great extent?

A. Yes, sir.

Q. 26. Where?

A. At Renova.

Q. 27. Have you read Letters Patent granted to Harry C. McCarty, No. 339,913?

A. Yes, sir; I have looked over them.

Q. 28. Also Letters Patent granted to Harry C. McCarty No. 314,459?

A. I have read No. 314,459; I have not read 339,913.

Q. 29. Will you take Letters Patent 339,913 and read them?

(Witness takes Letters Patent and reads.)

(Counsel for defendant objects to the examination of this witness as an expert in Patent matters, it not being shown that he has any experience in the construction of Letters Patent.)

Q. 30. Mr. Carty hands witness "Complainant's Exhibit, No. 8," and asks him whether he recognizes this drawing.

(Counsel for defendant renews his objection to said Exhibit as immaterial to the issue.)

A. I have seen it.

Q. 31. When?

A. I could not just give the date, but I saw it in 1882.

Q. 32. Where?

A. At Renova.

Q. 33. Who showed it to you?

A. Mr. McCarty.

Q. Did you have any conversation about it?

A. Yes, sir; in a general way.

Q. 35. Can you state, generally, what was said upon the subject of iron bolsters in connection with this drawing?

A. Our conversation was in regard to the strength of it, in the construction, and giving our ideas that it was much better than a wooden one.

Q. 36. Have you examined the defendant's blue prints, Nos. 1, 2 and 3 as exhibited here?

A. Not particularly; I have simply glanced at them.

Q. 37. Will you please examine defendant's blue print, No. 1, in its entirety as to both sections shown in the drawings in connection with the "Complainants' Exhibit, No. 8," and Letters Patent to complainant, No. 314,459., and state whether in your judgment as a mechanic and from your knowledge of the practical state of the art, the bolster and car trucks shown in the blue print, and "Exhibit 8," and the Patent are substantially alike?

(Counsel for the defendant objects to the question as to "Exhibit 8," the same being as before noted not embodied in the Patents in issue, and to the witness being called upon to examine and compare the patented devices with the blue print drawings referred to for the reason that he is not shown to be an expert in matters relating to Letters Patent.)

A. They are substantially the same.

Cross-examined, *de bene esse.*

By Mr. McCallum:

×*Q.* 38. So far as you know you believe Mr. McCarty to have been the first inventor of an iron or metal bolster for car trucks?

A. Yes, sir; of that form.

×*Q.* 39. You say of that form; do you know of metal bolsters of other forms having been known and used before Mr. McCarty's alleged invention?

A. Not in use I have not. I have seen them on paper, but not before I saw his.

×*Q.* 40. The advantages of iron over wood as stated by you are due generally to the difference of material?

A. Yes, sir.

×*Q.* 41. Do you find in the drawings defendant's blue prints exhibits, or have you seen in any of the trucks of cars belonging to the Lehigh Valley Railroad Company truss rods such as are shown in Patent 339,913?

A. I do not think that I have. I think the ones I saw had no truss rod; I am almost positive. I do not find them in the drawings referred to.

×*Q.* 42. Do you find in said drawings, or in the construction of trucks of the Lehigh Valley Railroad, metal bolsters, having the ends of the lower bar turned up, in combination with an arched upper bar, having its ends bearing against the turned up portions of the lower ones?

A. No, sir; I do not find them. But that is only a matter of convenience.

×*Q.* 43. Do you find in said drawings or in said trucks the use of plates secured beneath the end of the bottom bar notched or grooved at their sides to receive the eolumns of the side-irons, I mean a plate like that shown by the sketch of "Defendant's Exhibit, McCarty Third Claim Patent 339,913?"

A. No, sir.

×*Q.* 44. Do you find in said drawings or in defendant's truck that the central portions of the upper and lower bars of the bolster are united by means of angle-irons and bolts passing through the bars and the flanges of the angle-irons as shown by the sketch, "Defendant's Exhibit, Second Claim Patent 314,459?"

A. No, sir.

×*Q.* 45. Are the ends of the lower bolster bar extended beyond the ends of the upper bar and folded back against the ends of the upper bar in the construction shown by the drawings or defendant's truck?

A. No; they are not.

Re-examined.

R. D. Q. 46. Referring to your answer to the second last previous question I ask you to refer to the manner in which the upper and lower bars of the defendant's truck, as shown on the defendant's blue print, No. 1, are connected, and to state whether or not in your opinion the construction there shown is a mechanical equivalent of the method described in Claim 2 of the McCarty Patent 314,459?

(Question objected to as calling for the opinion of the witness as to what is a mechanical equivalent as applied to the construction of Letters Patent.)

A. Yes, sir; it is a mechanical equivalent.

R. D. Q. 47. State your reasons why you so say?

A. It is simply a support. The angle-iron is here used for the same purpose. It is simply a support between the two bars to prevent them sagging in the centre.

R. D. Q. 48. Are or are not the flanges that are connected by bolts with the bars and which support the columns parallel with the bars?

A. Yes, sir; they are.

R. D. Q. 49. Do or do not these flanges, which are connected with the upper and lower bars by bolts, as a support for the column, answer any other purpose than the upright piece of the angle-irons mentioned and shown in the McCarty Patent 314,459?

A. They do not.

Re-cross-examined.

By Mr. McCallum:

R. ×*Q.* 50. Look at the McCarty Patent 339,913 and state how are the centres of the bolster bars united in that Patent?

A. It has the appearance of being a column.

R. ×*Q.* 51. Would the column shown in said McCarty Patent 339,913 be the equivalent of the angle-irons described in 314,459?

A. Yes, sir.

R. ×*Q.* 52. And they are arranged parallel to the upper and lower bars?

A. Yes, sir.

R. × *Q.* 53. And are they not substantially the same as the columns shown in defendant's truck?

A. They are as far as mechanical purposes.

R. × *Q.* 54. Then you consider that supporting angle-irons of the one Patent are the same or the equivalents of the posts of the other?

A. Yes, sir.

WILLIAM L. HOLMAN.

Sworn to and subscribed before me, this sixteenth day of February, A. D. 1889.

[SEAL] JOHN A. WIEDERSHEIM,
Notary Public.

Harry C. McCarty, recalled.

By Mr. McCallum:

Q. × *Question* 166.—Do you claim to be the first inventor of a metal bolster for car trucks?

Answer.—I claim to be the first inventor of the metal bolster for car trucks described in the Patents in question.

Q × *Q.* 167. The question did not refer to any Letters Patent. Please answer it without reference to any?

A. To my knowledge I was the first inventor of a metal bolster for car trucks of any successful form or practical form whatever.

Q. × *Q.* 168. Do you claim to be the first inventor of a metallic bolster for car trucks of any form?

A. I answered that question in the former answer.

Q. × *Q.* 169. Is that the best answer you can make to the question?

A. That is about as near as I can reply to the question.

Q. × *Q.* 169. Do you not know that bolsters for car trucks made of metal were known and patented long prior to your invention?

A. I do not know of any.

HARRY C. McCARTY.

Sworn to and subscribed before me this sixteenth day of February, A. D. 1889.

[SEAL.] JOHN A. WIEDERSHEIM,
Notary Public.

(Copies of letters referred to in the foregoing testimony of complainant.)

"Complainant's Exhibit, No. 6."

LEHIGH VALLEY RAILROAD COMPANY,
Car Department,
Packerton, Pa., October 17, 1882.

H. C. McCARTY, ESQ.,
Renova, Pa.

Dear Sir: Will you please send me a blue print of the truck shown to me while at Niagara last week, and greatly oblige, Yours truly,

JNO. S. LENTZ,
M. C. B.

(Stamped)
Packerton Shops,
October 17, 1882.
L. V. R. R.

"Complainant's Exhibit, No. 7."

RENOVA, PA., October 24, 1882.

JNO. S. LENTZ, ESQ.,
M. C. B.

Dear Sir: As requested in letter of the 17th inst., herewith please find copy of blue print of iron truck.

Respectfully yours,
H. C. McCARTY,
Gen'l Car Ins.

"Complainant's Exhibit, No. 10."

PACKERTON, PA., October, 3d, 1883.

H. C. McCARTY, ESQ.,
Gen'l Car Inspector.

Dear Sir: I am much obliged to you for the information contained in your favor of even date in reference to our new hopper-bottom car. We now have several hundred of these bolsters on the road, and this is the first I have heard of any trouble—they are doing splendid. Please give me the number and say when you saw the car referred to.

With kind regards I am,
Yours truly,
JNO. S. LENTZ,
M. C. B.

PHILADELPHIA, Nov. 2, 1889.

Met pursuant to notice.

Appearances:—Jerome Carty, Esq., Counsel for Claimant,
Andrew McCallum, Esq., Counsel for Defendant.

George P. Whittlesey, a witness called on behalf of Complainants, being duly sworn, and examined by Mr. Carty, testified as follows:

Q 1. What is your name; age; residence and occupation?

A. My name is George P. Whittlesey; age, 33; residence, Washington, D. C.; and by occupation I am a Patent Lawyer.

Q 2. Are you a Solicitor of Patents as well as a Patent Lawyer?

A. I am.

Q 3. How long have you been in the business relating to Patents?

A. In the fall of 1879 I entered the Patent Office as an Assistant Examiner in the Division of Metal Working. I served in that Division for three years, and was then transferred to the Division of Instruments of Precision, Trade Marks and Labels, where I served for nearly one year. I was then transferred to the Interference Division, where I served as Assistant Examiner of Interferences, sometimes acting as Examiner of Interferences, for one year and ten months. I then resigned and entered the practice of Patent Law and Soliciting of Patents. This was in the fall of 1885. Since that time I have been constantly in practice.

Q 4. During your experience in the Patent Office as an Assistant Examiner and as Acting Examiner of Interferences were you called upon to examine and compare different inventions as to their novelty in the state of the art?

A. That was my duty as Assistant Examiner, namely, to compare the alleged inventions presented in new applications for patents with the prior state of the art as disclosed by the office records, and to report upon such facts to the Chief of the Division.

Q 5. Have you read and do you understand the Complainants' Patent in this suit granted to H. C. McCarty for improvements in Car Trucks or bolsters for car trucks covered by Letters Patent No. 339,913, of April 13th, 1886, and Letters Patent No. 314,459, of March 24th, 1885?

A. I have read both of the patents referred to, and I think I understand them.

Q 6. Confining yourself to Claim No. 2, of the patent of March 24th, 1885, and Claims 1, 3 and 4 of the patent of April 13th, 1886, will you please in your own way state what you understand to be the substantial invention as set forth in these patents and as shown in the claims annexed to the patents?

A. Claim No. 1, of Patent 339,913, differs from the other three claims referred to in that it contains as an element "truss rods," which are marked in the drawings annexed to the patent with the letter K. The other three claims do not contain this element. The other three claims cover the construction of a bolster for car trucks, consisting of two bars, an upper and lower bar, and certain adjuncts by which said bars are made to constitute the bolster.

Referring now to Patent 339,913, Claim 3 is directed to a

specific construction of the lower bar of said bolster, namely, that in which its flanges turn up on its ends, said flanges, as I understand the construction, being for the purpose of receiving and sustaining to a certain extent the thrust of the upper bar, which is in effect the compression bar of the truss. The claim also has as an element a guide-plate bolted to the ends of the bolster, said plate performing two functions, one being to guide the vertical movement of the bolster as it plays between the columns of the said frame, the other being to form a seat for the upper end of the spring and incidentally to assist in strengthening that part of the bolster.

The third claim, to which I am now referring, also contains as elements the stops or blocks lettered M, inserted between the bars, the function of which, as I understand them, is to rigidly hold the two bars in a fixed relation to each other at that point to prevent any bending of the upper bar at the point where it meets the lower bar.

This claim also contains the posts or pillars, which are lettered H, and which are inserted between the upper and lower bar and serve to keep them separate and thereby preserve the form of the truss.

The fourth claim of this patent is in effect broader than the third,which we have just been considering, since it omits the upturned flanges at the end of the bar G, and the stops or blocks M inserted near the junction of the two bars. It covers simply the truss consisting of the two bars and their interposed columns, with the addition of the guide plates secured to the end of the bars and adapted to engage with the columns of the said frame.

Claim 2, of Patent 314,459, differs from the claims of the other patent which we have just been considering, in that it

omits the guide plate and is limited to the truss, consisting of the upper and lower bars and certain specific means for keeping them in their separate position; said means being stated to be angle irons, parallel to said upper bars and bolted thereto through their flanges. In one sense this claim may be considered to be broader than any of the others, in that it is confined simply to the truss as stated, consisting of the two bars and the means for separating them.

7 *Q.* Have you made an examination into the state of the art generally as to these two patents referred to, and the respective claims which you have enumerated?

A. I have examined the United States Patents relating to car-trucks, with a view to ascertaining whether or not a bolster substantially similar to that shown and claimed in Mr. McCarty's two patents has ever before been patented. I did not find any bolster which to my mind constituted an anticipation of his invention.

8 *Q.* Did such examination into the state of the art include the patents referred to in the answer of the defendants?

(Counsel for defendant objects to this examination of the witness with respect to patents referred to in the answer, unless the same are offered in evidence.)

A. It did.

9 *Q.* Referring to the year 1882, in February, as the date of Mr. McCarty's invention as you understand it, can you tell us in a general way what the substantial difference is between the existing construction of bolsters for car trucks prior to February, 1882, and wherein Mr. McCarty's invention is considered in your opinion to be new, novel, and of utility?

A. The existing construction of bolsters for car trucks prior to the year 1882 is exceedingly varied. There are several hundred patents probably relating to this art, and they run back to the year 1828, or prior to that. I have several copies of patents which may be said to represent in a general way some of the forms of construction that had been proposed prior to 1882, among them being a patent to T. E. Roberts, 25,139, dated August 10, 1859, which shows a rigid bolster consisting of a beam, of wood presumably, strengthened by truss-rods running down under a seat placed against the end and side of the beam, very similar to the construction now in ordinary use, as will be seen upon reference to Patent No. 242,670, dated June 7, 1881, which shows quite clearly the ordinary method of making a bolster beam, with the exception that in this Patent the beam is shown composed of two parallel bars, whereas ordinarily it is composed of one bar; but the arrangement of the truss-rods is about as usual. Another patent, namely, that to Thurston & Ledyard, 47,880, dated May 23, 1865, shows a bolster composed of two angle irons placed side by side, and united by suitable plates, and extending transversely of the car trucks of course, said plates being provided with centre bearings, and said bearings constituting a floating bolster made entirely of metal. Another patent to Thielson, 90,795, June 1, 1869, shows a swinging bolster which is composed of a spindle-shaped tube of metal. Another patent, 252,531, granted to Simons, January 17, 1882, shows a bolster composed of two channel irons placed together in such a manner as to form a tubular structure, and extending transversely of the truck and containing a separate centre and side bearing.

These represent fairly well the various attempts that were

made prior to 1882, to utilize metal in the construction of bolsters.

(At this point in due season counsel for defendant objects to the testimony respecting Letters Patent not referred to in the answer, unless the same are offered in evidence.)

(Mr. Carty replies that he will produce the Letters Patent referred to, and offer the same in evidence in connection with and in illustration of the witness's answer to the question, but for no other purpose.)

Witness continuing: There are of course other instances which might be cited as examples, but they would not in my opinion add anything to what has already been said. Mr. McCarty's invention seems to have departed from the line previously worked upon, in that he adopted for his bolster the construction known mechanically as a truss, adapting it in certain details to suit the purposes to which it was to be put. By these means he secured an exceedingly strong and rigid bolster at the least expense of material. The element of rigidity is, as I understand the art, especially desirable in a bolster, in order to preserve at the same relative height the side and centre bearings.

(At this point Mr. Carty offers in evidence the patents referred to by the witness in the last answer, and the same are marked "Complainant's Exhibits, Roberts' Patent, Thurston & Ledyard Patent, Thielson Patent, Simon's Patent" respectively, illustrating Mr. Whittelsey's answer to question No. 9.)

10 *Q.* Mr. Carty calls the attention of the witness to blue prints produced by defendant at the request of counsel for

complainant, being marked in red ink Nos. 1, 2 and 3, and also blue print marked "Diamond Truck Bolster," No. 1, being also referred to as "Standard Truck, Packerton Shops;" No. 2, "Standard Trucks for Cars, John S. Lentz, M. C. B.;" No. 3 being "Standard Truck for Cars, John S. Lentz, M. C. B.;" and asks the witness to examine the same severally and collectively, and to state whether the said drawings or blue prints, and which of them, substantially represent the construction of the bolster, as covered by Letters Patent of complainant's, sued on and referred to in witness's testimony, referring to the same severally by the terms applied to the exhibits?

A. I have examined the exhibits referred to, and in my opinion the bolsters shown in Exhibit No. 1, which consists of an upper bar and a lower bar, interposed posts or columns, and apparently some means for confining the ends of the bars, is substantially the same as the invention set forth in the fourth claim of Patent 339,913. The only possible point of difference of construction that might be insisted upon being that the means for securing together the ends of the bars, as shown in the Exhibit, do not seem to be simple plates, but castings, which partially surround the ends of said bars. In effect, however, said casting is the equivalent of Mr. McCarty's plate, since it serves the two purposes which I some time ago ascribed to McCarty's plate, namely, that of guiding the vertical movements of the bolster, and of serving as a seat for the spring.

What I have said in regard to Exhibit No. 1, I think applies equally well to Exhibit No. 2; the only difference in the construction of the two bolsters being, that in Exhibit No. 2 the lower bar is not straight, but is an inverted arch,

and there seems to be also additional braces or supports interposed between the two bars. The effect of these braces, however, is simply to increase the stiffness of the truss, and I do not think it to constitute in any way a patentable difference between this and the bolster shown in No. 1.

The other blue print, "Diamond Truck Bolster," is similar in the arrangement of the bars to that shown in Exhibit No. 2, and I should imagine it represented said bolster without the upright column.

11 *Q.* Mr. Carty calls the witness's attention to the plans and sections of a freight car as shown in the drawings on pages 362–3 of the *Railroad Gazette* of June 8, 1888, referred to as "Complainant's Exhibit No. 12," and asks the witness to state what, if any, similarity he finds in the truss or bolster shown in this drawing, as compared with the complainant's patents, and the Exhibits Nos. 1, 2, 3, and Diamond Truck Bolster, as shown in the blue prints?

A. I have examined the Exhibit No. 12, and cannot see any substantial difference between the bolster therein shown and the blue prints, Exhibits No. 2 and Diamond Truck Bolster, so that what I said in regard to the blue prints would apply equally well to this Exhibit. They are probably made from the same drawing.

12 *Q.* From the examination which you have made into the state of the art, as detailed by you, and referring to the complainant's patents in suit in connection with the Exhibits of blue prints produced by defendant, and marked "Exhibits No. 1, 2, 3, and Diamond Truck Bolster," and the publication last referred to, marked "Exhibit No. 12," have or have you not any doubt that the bolster for a car truck, as shown in the Exhibits blue prints 1, 2, 3, and Diamond Truck Bolster, and

as shown in the publication in the *Railroad Gazette*, being Exhibit No. 12, are substantially infringements of the complainant's patents?

(Objected to, the witness not being competent to say whether the patents are infringed or not, that being the province of the Court.)

A. It is my opinion that the bolsters shown in said Exhibits do substantially infringe the patent or patents of complainant.

Mr. Carty: Before handing the witness over for cross-examination, counsel for complainants would request an expression of intention on the part of the counsel for defendants as to the production in evidence of the blue prints produced by the defendant and examined and referred to by the several witnesses for complainant.

Mr. McCallum: Counsel for defendant says that he will offer the blue prints referred to in evidence in due season.

Cross-examined.

By Mr. McCallum:

×*Q.* 13. Mr. Whittelsey, while employed in the Patent Office, was it your business to examine car trucks, or to make examinations in the class to which they belong?

A. It was not.

×*Q.* 14. Have you any practical knowledge or experience in the art of car building?

A. Not as a mechanic.

×*Q.* 15. Have you examined the car trucks of the defendant company which are said to infringe the patents in issue?

A. I have not.

×*Q.* 16. When were you employed as a witness in this case?

A. This is the first time that I have appeared on the stand in this case.

×*Q.* 17. When did you make the examination on the state of the art to enable you to testify?

A. Yesterday.

×*Q.* 18. Was the examination confined to the prior United States Patents?

A. It was.

×*Q.* 19. Then you did not examine any printed publications descriptive of car building?

A. I did not.

×*Q.* 20. Do you know what a body bolster is? If so, explain.

A. The body bolster is that portion of the frame of the car body which lies immediately above the truck bolster, and carries the centre plate or bearing by which the body and the truck are connected.

×*Q.* 21. Suppose such a body bolster to be made of metal bars of the same form, and supported or united in the same manner as shown by the McCarty Patents, would you consider that there was any patentable invention in making the McCarty bolster, the position of course being reversed?

A. I cannot conceive how such a construction would be possible since the truck bolster is attached to the truck flexibly, by means of the spring, and, so far as I am aware, the body bolsters are rigidly applied to the bottom of the car body.

×*Q.* 22. I refer in my last question to a structure like the sketch now shown you. Would there be any material difference in that structure over what is described in the McCarty Patents except that it is turned upside down?

A. While there is no material difference in the structure, viewed as an assemblage of mechanical elements, yet I think there is a decided difference in the functions and operation of this body bolster and the McCarty truck bolster.

(Exhibit marked sketch "Whittelsey's Testimony, November 2, 1889, offered in evidence.)

×*Q.* 23. Supposing that such body bolsters were known and used long prior to the date of McCarty's alleged invention, do you think it would require any invention to adapt them for use as truck bolsters, or that there was any novelty in such construction other than the use to which it was put?

A. I do not think that the use of such a structure as is shown in this Exhibit sketch, when inverted and placed in a car truck to serve as a floating bolster would be a double use of it, for the reason that a body bolster is rigidly attached to the underside of the car body, and is to a large extent supported thereby across its entire length by the floor timbers, while the truck bolster is supported at the ends only and receives its load upon the centre, so that it seems to me that it is not a question that ordinary skill could determine to say whether such a body bolster as is shown in the sketch, if inverted and supported at the ends solely, would perform satisfactorily the functions which the truck bolster is required to possess, such functions being that of stiffness and rigidity to prevent the sagging of the centre of the bolster by which the side bearings might come in contact.

×*Q.* 24. Is not the structure itself substantially the same as the McCarty bolster?

A. I have already stated that as an assemblage of mechanical elements the structure is the same substantially, considering the bolster as separate from the car body, which it never is in practice.

×*Q.* 25. You have had experience in the construction of claims of Letters Patent. Do you understand that the claim for a combination of parts is necessarily limited to the parts enumerated in said claim?

A. It is limited to those parts, or to their substantial equivalents, those equivalents being known at the time of the invention.

×*Q.* 26. If any of the parts should be omitted it would not be the same combination, would it?

A. If the omitted parts are material and essential to the operation of the combination, and so stated to be by the specification, the use of a portion of the elements other than the omitted parts is not an infringement.

×*Q.* 27. Do you not also understand that when a specific construction and arrangement of the parts of a combination are set forth in a claim that it is limited to such specific construction of parts or parts of specific construction when used in combination?

A. I should say that the proper answer to that question would depend entirely upon the patent which was under consideration, since the proper scope and meaning of a claim can only be determined by reference to the specifications.

×*Q.* 28. Is not the construction of claims always dependent on the specifications?

A. Yes.

×*Q.* 29 Referring now to Patent 339,913, the first claim is for the combination of the bolster described in the specification with the truss rods described in the specification, is it not?

A. It is.

×*Q.* 30. That claim would not be infringed if the truss rods were not used, would it?

A. It would not.

×*Q.* 31. Passing to the third claim is not one of the elements of parts the lower bar G, having flanges Q, turned up on its ends?

A. It is.

×*Q.* 32. Another the upper bar having its ends bearing against said flanges?

A. It is.

×*Q.* 33. Another the guide plates P, bolted to the ends of said bars under the same?

A. It is.

×*Q.* 34. And the other elements are the stop-blocks M and the pillars H?

A. They are.

×*Q.* 35. Would this claim be infringed if the lower bar G, did not have the flanges Q, turned up on its ends, and the upper bar F, having its ends bearing against the said flanges?

A. I think not.

×*Q.* 36. Would it be infringed if the guide plates P were not bolted to the ends of the bars under the same?

A. If the guide-plates are omitted entirely the claim would not be infringed; but it is evident that their function as guide-plates does not depend upon their being *under* the ends of the

bars. They would operate equally well if placed between the bars or on top.

×*Q.* 37. But does not the claim say they must be bolted under the bars as stated in the specification?

A. It does, but that is a matter which seems to me to be immaterial.

(The latter part of the answer is objected to as voluntary and not responsive.)

×*Q.* 38. The specification does state with reference to the plates P that they are secured on the under side of the end of the bar G, does it not?

A. It does.

×*Q.* 39. And there is no other position in which they are to be secured, is there?

A. While it is not stated in the specification that the plates may occupy any other position with reference to the bars than that specified in the claim, yet the specification does not state on the other hand that there is any peculiar advantage to be derived from placing them on the under side rather than between or above the bars.

×*Q.* 40. You say there is nothing in the specification to show any advantage from the location of the plates. I call your attention to the lines 60 to 64. Is it not there stated that the bolts applied to secure the plates of the bar G below the column M serve to connect the ends of the bolster in a firm and durable manner.

A. The bolts referred to are two in number, N and N′, both sets of which pass through the plate P to the upper side of the upper bar, the bolt N passing through the thimbles M and also through the side bearings J. It is evident that these bolts are not so located as to preven

the location of the plate P between the bars F and G or above the bar F, since in either case they would hold it equally well, as shown in the drawing.

×*Q.* 41. In view of the fact that the specification describes the plates P as being located below, and the fact that the position under the bars is made a condition of the invention claimed and that no other position is suggested by the specification, do you think you are justified in going outside of the Patent in construing the scope of this claim?

A. What do you mean by "the condition of the invention?" I do not quite understand the phrase "being a condition of the invention claimed." However, I might answer the question in this way; I look at the matter in this way: Would it involve any invention to put the plate P between or above the bars instead of in its present position, and would there be any difference in the function or effect of the plate when so placed? If not I think that the limitation as to the position of the plate as expressed in the specification and claim becomes immaterial to the claim and does not therefore limit it to that particular construction.

×*Q.* 42. Suppose that the record of the Patent Office showed that a different location of the plate P was claimed, say for instance between the bars, and that the inventor subsequently amended the claim so as to make it read "beneath" instead of "between," would you not consider that he was limited to the specific arrangement of the plate beneath the bars?

A. Not necessarily, because as shown the plate is beneath the bars and it would be an error to state that it was between; so that if the claim had been drawn calling for a plate between the bars the office was right in requiring it to be amended to

read beneath. If furthermore the amendment of the claim was made in view of a reference cited by the office, I should not care to pass an opinion upon the correctness of the amendment without a study of the reference and of the Examiner's action, for I am well aware that the actions of the Examiners are not wholly infallible.

×*Q.* 43. Do you not think that an inventor is responsible for and bound by the language of his claim, which the law requires him to make, pointing out his invention?

A. Undoubtedly.

×*Q.* 44. Then, if an inventor claims a particular location for a part of a combination, is he not limited by his claim to that location?

A. He is, if he sets forth a particular advantage to be derived by locating the elements in that particular way by which he can accomplish something which he could not accomplish in some other position.

×*Q.* 45. Taking the combination of parts embodied in this Third Claim of Patent 339,913, could you place the plate P between the ends of the bars, without interfering with the specific arrangement of the turned up flanges Q and bearings of the lower bar against them?

A. I think I could.

×*Q.* 46. You could not, without altering the construction shown in the drawings, could you?

A. The only alteration necessary would be a slight lengthening of the flanges, and since no limitation is expressed in the specification as to their height, and since the construction of the truck and bolster is such that a slight extension of them upward would not interfere with its operation, I do not see

how such an extension of them would be any departure from the invention.

×*Q.* 47. Where would you locate the blocks M, if you made such a change?

A. They would be directly on top of the plate P and bear against the underside of the upper bar. No change would be necessary in them whatever.

×*Q.* 48. That would necessitate a change in the form of the upper bar, would it not?

A. Yes; it would necessitate raising the two ends of the bar slightly which might be said to change its form.

×*Q.* 49. It would also change the relative positions of the bearing G and truss rods K, would it not?

A. If the same identical patterns were used from which the blocks were made in the pattern shown in the drawing, the blocks J would, of course, be tipped very slightly toward the centre bearing; but is is a matter of mechanical skill only to slightly modify the bevel of the under side of those blocks to compensate for the slight change which would be caused by placing the plate P on the upper side of said bar instead of in its present position.

×*Q.* 50. Still with these changes it would not be the identical structure covered by the third claim, would it?

A. I think it would be substantially the same structure, viewed as a patentable invention, since the changes which I have named are purely mechanical, and do not involve any difference in the function or substantial arrangement of the parts.

×*Q.* 51. Is there any other form or guide plate or casting other than the plates P described in the Patent?

A. I do not think there is.

×*Q*. 52. And are not said guide plates P in their construction and location as essential to the combination claimed as the construction of the ends of the bars themselves, that is with the flanges Q?

A. These, or their substantial equivalents, are, of course, essential to the claim as a combination.

×*Q*. 53. With respect to the fourth claim I think you said that it dispensed with the parts M. Are not the columns M included in the combination as set forth in the patent?

A. Yes they are. I read that H when I looked at it for the reason that the parts H are described as columns, and in reading the claim I suppose that that was the part that the claim intended to include. I see now that it was a mistake. I see now that the columns H do not form a part of the claim, but that the columns M do.

×*Q*. 54. Do you think that the parts H could be dispensed with and there still be an operative device?

A. I doubt very much if they could—they or something equivalent for them.

×*Q*. 55. Then is not the claim as it stands objectionable, as not including all the elements necessary for the combination?

A. It would seem to be, unless it would appear from competent evidence, that the columns H could be omitted. That is a matter of practical knowledge derived from the active operation of the device upon which I do not feel competent to express an opinion.

×*Q*. 56. In this fourth claim the parts P are also required to be secured beneath the bars F and G, are they not?

A. They are.

×*Q*. 57. And they must be notched or grooved at their sides at *a*?

A. That is the construction specified.

×*Q.* 58. There is no other construction of these parts specified, is there?

A. There is not.

×*Q.* 59. Then is not this fourth claim, supposing it to be for a co-operative combination, so limited as to include plates P of specific construction, having notches or grooves on their sides and located beneath the bars F and G?

A. The claim is limited to the use of guide plates notched or grooved on their sides, or another well-known mechanical equivalent for such notching or grooving, and the claim states that the plates shall be secured beneath the bars F and G at their ends. But for reasons which I have previously given it does not seem to me that a change in location of these plates from the position beneath the bars would avoid infringing the claim.

×*Q.* 60. In your opinion is the inventor of a device of specific construction, which may be an improvement on similar devices before known, entitled to cover equivalent devices, or is he properly limited to his specific construction, similar devices of different construction being before used for the same purpose?

A. If his specific device had been the mechanical equivalent of those prior constructions of course he would not have been entitled to claim it at all. It is only when his device is sufficiently novel to take it out of the range of the mechanical equivalents of previous devices that he is entitled to receive a patent for it; and as such it in turn will include all substantial equivalents known therefor at the time of his invention of it.

×*Q.* 61. In examining the state of the art and in referring to the prior patents you have introduced, did you find, and

have you not so stated, that other forms of guides for side irons are shown and described?

A. I do not think that I stated that I found any different guides. My previous answer, to which I presume you refer, was, if I recollect, directed to bolsters solely.

×*Q.* 62. You know the office of these plates?

A. Yes, sir.

×*Q.* 63. What is it.

A. As a matter of fact I know that there are other kinds of guide plates shown in prior patents.

×*Q.* 64. Referring now to Patent 314,459, and the Second Claim thereof, I think you stated that it was for the combination consisting of the upper and lower bars, with supporting angle-irons of specific construction, and that in one view of the case it might be considered a broader claim than any of those described in the 339,913. Do you consider that this Second Claim of Patent 314,459 broadly covers a car truck bolster, consisting of the upper and lower bars with any suitable support between them?

A. The construction of this claim would, of course, depend entirely upon the prior state of the art and the statements made in the specification. I do not think, however, that it would be possible to construe the claim as broadly as you have stated in your question.

×*Q.* 65. Do you consider that the claim covers in the combination any equivalent of the angle-irons support, the function being merely to support the central portion of the bolster?

A. Any element which would perform the same functions that the angle-irons do, but that function of course may be more limited than simply supporting the plates. The mechanical

equivalents of the angle-irons may be more or less different in construction from them according to the limitations which the prior state of the art may impose.

×*Q.* 66. Would you consider that the use of the columns H, of the McCarty Patent 339,913 would be the equivalent of the angle-irons of 314,459?

A. Strictly speaking I should say not.

×*Q.* 67. Then the use of a car truck bolster consisting of upper and lower bars supported by columns like the columns H, of 339,913, would not be an infringement of said second claim of Patent 314,459?

A. It does not seem to me that it would.

×*Q.* 68. Is it not a fact that to be within the scope of said claim the angle-irons described must be parallel to the upper and lower bars, and bolted thereto through their flanges, the particular construction of the angle-irons with their relation to the upper and lower bars of the bolster being illustrated by the figure 5 of the drawings of the said Patent 314,459?

A. I should say that it was essential to comply with this claim, that the upper and lower bars be supported by two parallel bars, through which pass the bolts lettered F′, but I doubt if it is essential that they should be angle-irons since I think they could be replaced by solid bars without departing from the spirit of the claim; the bolts in that case passing through the body of the parallel bars instead of through the flanges formed thereon.

×*Q.* 69. You mean to be understood that this claim does not necessarily include the use of angle-irons?

A. Not necessarily.

×*Q.* 70. And it is not necessary that the bolts should pass through the flanges as described in the claim?

A. No; because if the flanged angle-irons are replaced by two parallel blocks, and have the bolts passing directly through these blocks, the function and effect of said blocks is precisely the same as that of the angle-irons.

×*Q.* 71. But it does not describe anything but the angle-irons, does it?

A. No, sir.

×*Q.* 72. And does not claim anything but the angle-irons, does it?

A. No, sir. I made a mistake in my answer to the previous question. In lines 79 and 80 he states that the term angle-irons above employed also embraces the shapes known as channel-bars, indicating that he does not limit himself to any particular angle-irons.

×*Q.* 73. Channel bars have flanges, have they not?

A. They have. They are double angle-irons, as I understand it.

×*Q.* 74. Are not the bars G, shown by figure 5 of the drawings in effect, channel-irons?

A. They aré what I understand to be channel-bars.

×*Q.* 75. They are described in the specification as angle-irons, are they not?

A. That is the only place they are referred to.

×*Q.* 76. In comparing defendant's blue print drawing and "Exhibit No. 12," with the McCarty patents in issue, you, stated that you found the combination covered by the fourth claim of Patent 339,913 embodied therein, or words to that effect. Do you find any other combinations of the claims embodied in the structure shown by said drawings and publication, of course confining yourself to the first, third and fourth claim of one patent and second of the other?

A. The first claim of No. 339,913 does not seem to be embodied in these Exhibits, for the reason that the truss-rods specified in said claim are not used in combination with the upper or lower bars of the bolsters shown in the Exhibit. The combination set forth in claim 3 of 339,913, does not seem to be found in said Exhibits, for the reason that the upturned flanges Q on the lower bar are not shown therein, so far as I can make out. The combination covered by the second claim of the Patent 314,459, which includes the parallel angle-irons secured between the upper and lower bars, is not found in these Exhibits, unless the diagonal braces shown in Exhibit 2 and Exhibit Diamond Truck should be construed as equivalents to the angle-irons specified. It does not seem to me probable that they would be so regarded by the Court, since they are not parallel to one another.

77 ×*Q.* Then when you stated that in your opinion the use of trucks constructed, as shown by the blue prints, would be an infringement on the McCarty patents referred to, you had reference solely to the fourth claim of Patent 339,913. Is that correct?

A. As I understand the Exhibit, it seems to me that that is the only claim which they infringe.

78 ×*Q.* Now, referring to such claim, again I ask you if the said claim, in terms including the plates P secured beneath the bars, is found in either of said blue prints or publication?

A. I think it is substantially found in Nos. 1 and 2.

79 ×*Q.* Do you understand the construction of the end casting, or casting shown at the ends of the bolster bars shown by said blue prints?

A. The construction is not very clearly shown in the blue

prints, since it is impossible to determine whether or not the two sides of the casting are in any way united; but it seems to be composed of the plate lying beneath the upper and lower bars of the bolster and secured thereto by bolts the plate having also a flange surrounding it on each side and at the outer end, the ends of the bars being received between the flanges. The sides of the casting seem to be provided also with ears or lugs, to engage with the columns of the side frame, although that does not clearly appear from the blue prints.

80 × *Q*. Is it not clear to you from the drawings that the ends of the bolster bars are enclosed in socket-like castings, which surround them on all sides?

A. I should say that the bars are not enclosed on the upper side at all, certainly not where the bolts pass through them.

81 × *Q*. It is clearly shown that they enclose them on three sides, is it not, and are not simple plates located underneath the bars?

A. Yes; that is the evident construction.

82 × *Q*. Then if the said fourth claim of Patent 339,913 is strictly construed by its terms to the use of a plate bolted to the under sides of the bars, and having the notches *a* as specified, you do not find that restricted combination in defendants' structure, do you?

(Objected to as begging the decision of the Court.)

A. I think that the construction claimed is fully shown in the Exhibits, for the reason that it does not make the plate any less a plate because in the defendants' construction it is surrounded with a flange on three sides. It still underlies the ends of the bars in precisely the same manner as

Mr. McCarty's plate, and is undoubtedly, as I understand the drawings, notched or grooved on its edges for the same purpose as his.

83 ×*Q*. Did you in the course of your examination into the state of the art come across similar socket pieces on the ends of the bolster bars in prior patents? And is not such a socket described in Patent to H. Thielson, No. 90,975?

A. Referring to Thielson's Patent, I do not think such a socket is shown. The parts marked "K K" in the drawings are bolted rigidly and immovably to the side frames of the truck, and the bolster does not come into contact with them at all, as I understand it. With regard to what the prior state of the art showed, aside from the Thielson Patent, I do not recollect finding any patent prior to 1882, which showed such a socket as has been described in your prior question, and as shown in the defendants' exhibit.

84 ×*Q*. How is it in the Thurston and Ledyard Patent? Does that not show metal castings confining the ends of the bolsters?

A. The patent to Thurston & Ledyard shows a plate No. 1 bolted upon the top of the floating bolster, whose edges are apparently coincident with the edges of the angle-irons forming the bolster at each end of the bolster. A rectangular notch is cut in the plate and bolster, and that notch engages with the edges of the upright casting bolted upon the frame of the truck.

85 ×*Q*. On the state of the art as known to you, can you say that Mr. McCarty was the first inventor of a metal bolster for car trucks?

A. Not at all.

86 ×*Q*. The invention covered by the McCarty patents is limited to the particular construction set forth in the claims; is it not?

(Objected to as involving a legal proposition which is within the province of the Court.)

A. Just what the patents may cover depends not upon the strict phraseology of the claims, but upon the manner in which they may be construed by the Court in the light of prior patents and the language of the specification.

Sworn to before me this second day of November, 1889.

[Signature waived.]

Complainants close, subject to offering certified copies of file wrappers referred to.

McCARTY

vs.

LEHIGH VALLEY RAILROAD COMPANY.

STATE OF PENNSYLVANIA,
CITY OF PHILADELPHIA. } *ss.:*

I, John A. Wiedersheim, a Notary Public of the Commonwealth of Pennsylvania, residing in the City of Philadelphia, acting as Special Examiner in the above case by agreement of counsel, do hereby certify that the foregoing testimony of the witnesses, Harry C. McCarty, William L. Holman and George P. Whittlesey, was taken on the part of complainants at the office of Jerome Carty, Esq., in the City of Philadelphia, on the fifteenth and sixteenth days of February, 1889, and the second day of November, 1889; said witnesses being first by me duly sworn according to law to testify the truth, the whole truth and nothing but the truth; said testimony by agreement of counsel was taken stenographically in the presence of counsel on both sides and after transcription was signed by witnesses McCarty and Holman, the signature in case of Whittlesey being waived, copies having been submitted to counsel on both sides for examination. The foregoing testimony I believe to be a full and correct transcript of the stenographic notes of testimony, and the stipulations and agreements of counsel to be correctly stated.

In witness whereof I have hereunto set my hand and official seal.

[SEAL] JOHN A. WIEDERSHEIM,
Notary Public.

"EXHIBIT No. 1."

TO THE COMMISSIONER OF PATENTS:

Be it known that I, Harry C. McCarty, a citizen of the United States, residing at Renovo, in the County of Clinton, State of Pennsylvania, having invented an Improvement in Car Trucks, and desiring further to mature the same, file this my caveat therefor, and pray protection of my right until I shall have matured my invention.

The following is a description of my newly-invented Car Truck, which is as full, clear, and exact, as I am able at this time to give, reference being had to the drawings hereto annexed:

Figure 1 is a side elevation.

Figure 2 is a front or rear view thereof.

Figure 3 is a top plan view.

Referring to the drawings:

a represents the lower stationary bolster, and *b*, the upper stationary bolster, the latter consisting of the plates *c* and *c'*, which are separated by the standards *d''*, *e* represents trusses or braces, which are passed under or through lugs or bearings *f*, depending from the plate *c*, and connected to the plates *g*, which are sustained on the end bearings *h*. *j* represents fillings or bearings fitted between the plates *c*, *c'*, at the ends thereof, and *k*, represents bolts which are passed through the side irons and columns or posts *l*, and provided with nuts for firmly connecting said parts.

The ends of the plate *c*, are flanged as at *m*, and the ends of the plate *c'* are set there against. The ends of the bolster or plate *a*, are turned over or doubled, as at *n*.

The underside of the ends of the upper bolster *c*, has bolted or otherwise secured to it guides *p*, whose sides are notched or shouldered as at *g*, to fit between the columns or posts *l*, and rest on the top of the springs *r*, of the truck.

The novelty of the case is :

First.—A bolster formed of metal bars, plates or pieces which are strong and durable.

Second.—The construction of the upper bolster of two plates, with the uprights or standards between them.

Third.—The manner of trussing of the two plates of the upper bolster, as shown.

Fourth.—The flanges at the ends of the lower plate of the upper bolster.

Fifth.—The bends or reinforce of the ends of the lower bolster.

Sixth.—The guides secured to the ends of the upper bolster and playing between the columns of the side irons.

Seventh.—The side irons and columns with the bolts passed vertically through said irons and columns.

(No Model.)

H. C. McCARTY.

CAR TRUCK.

No. 314,459. Patented Mar. 24, 1885.

Fig. 1.

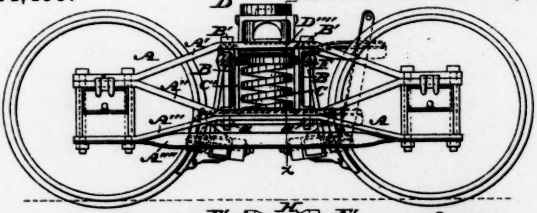
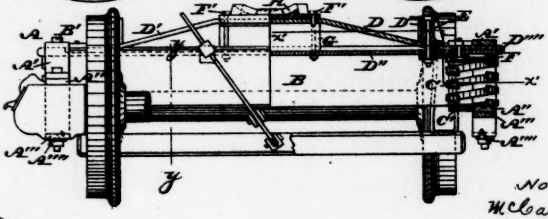


Fig. 2.



No. 9.
McCarty, Adm'x
v.
Lehigh R.R.
p. 107

Fig. 6.

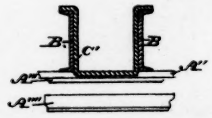


Fig. 3.

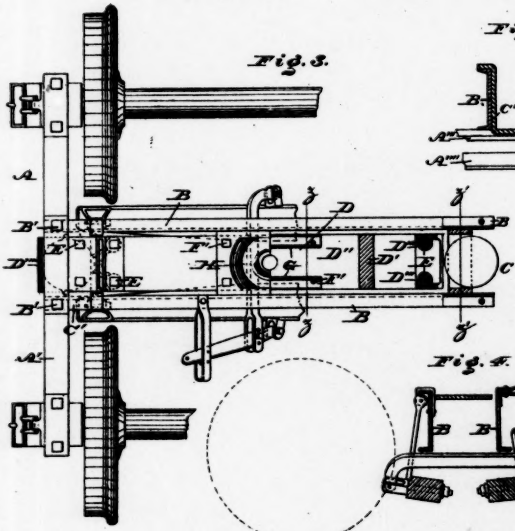


Fig. 5.

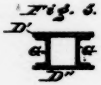
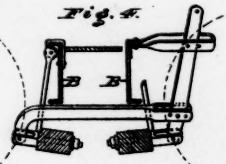


Fig. 4.



WITNESSES:
L. Dourville
W. F. Fischer

INVENTOR:
Harry C. McCarty,
BY John A. Biederstein
ATTORNEY.

HARRY C. MCCARTY, of Williamsport, assignor of one-half to John F. Bickel, of Morton, Pennsylvania.

Car-truck.

Specification forming part of Letters Patent No. 314,459, dated March 24, 1885. Application filed June 5, 1884. (No model.)

To all whom it may concern:

Be it known that I, Harry C. McCarty, a citizen of the United States, residing in the city of Williamsport, county of Lycoming, and State of Pennsylvania, have invented a new and useful improvement in car-trucks, which improvement is fully set forth in the following specification and accompanying drawings, in which—

(Here follows diagram marked p. 107.)

Figure 1 is a side elevation of a car-truck embodying my invention. Fig. 2 is a partial end view and partial transverse section thereof in line *x x*, Fig. 1. Fig. 3 is a partial top view and partial horizontal section thereof in line *x' x'*, Fig. 2. Fig. 4 is a vertical section of a detached portion in line *y y*, Fig. 2. Fig. 5 is a vertical section of a portion in line *z z*, Fig. 3. Fig. 6 is a vertical section of a portion in line *z' z'*, Fig 3.

Similar letters of reference indicate corresponding parts in the several figures.

My invention consists of a bolster of a truck more especially designed for a freight-car, which is strong and durable, as will be hereinafter fully set forth.

Referring to the drawings, A represents the side trusses of a car-truck, the same being formed of the upper pair of irons, A' A'', and the lower pair of irons, A''' A'''', the boxes being fitted between the ends of the two pairs of irons.

Interposed between the arched or central portions of the irons A' A'' are bars B B, of angle or channel iron, which are secured to said irons by means of bolts B', which are passed through the upper irons, A', the flanges of the bars B, the lower irons, A'', and also through the irons A''', and tightened by the nuts *a*, thus firmly connecting said irons and bars.

The spring C rests partly on the upper irons, A'', and partly on supports C', which are secured to the angle-irons or bars B, said supports and irons forming broad surfaces to sustain the springs.

The angle-irons or bars B stiffen and strengthen the side trusses, and are also serviceable as means of connection of the brake-rigging with the truck.

D represents a bolster whose ends are sustained on the springs C, the same being formed of the top arched bar, D', and lower iron bar, D'', which are connected by the bolts E, the latter passing through said bars D' D'' and columns D''', rising from the bars D', and tightened by suitable nuts.

Secured to the under side of the bolster, at the ends thereof, are castings or heads F, which are fitted to the top of the springs C, and serve to guide the bolster and hold the springs in position.

Interposed between the bars D′ D″ of the bolster, at the centers thereof, are bars or angle-irons G, which are bolted to said bars firmly and securely connecting the same, and strengthening the center of the bolster, whereby it is well enabled to sustain the load to which it is subjected, the center plate, H, being also bolted or otherwise firmly connected with the bolster, the bolts F′ passing through said center plate, the upper bars, D′, the flanges of the bars or angle-irons G, and the lower bars, D″, forming a strong structure.

The ends of the bar D″ are turned back, forming laps D″″, against which the ends of the upper bar, D′, are thrust as abutments, thus increasing the strength of the end connections of the two bars.

The term "angle-iron" above employed also embraces shapes of iron known as "channel-bars."

Having thus described my invention, what I claim as new, and desire to secure by letters patent, is—

1. In a car-truck, the side trusses consisting of irons A′ A″ A‴ A″″, in combination with the angle-irons B, each of which extends across the space between the upper irons, A′ and A″, and the bolts B′, which pass through the flanges of said angle-irons and also through irons A′, A″, and A‴, substantially as set forth.

2. In a car-truck, a bolster consisting of upper and lower bars and supporting angle-irons between the bars, said angle-irons being parallel to said upper and lower bars and bolted thereto through their flanges, substantially as and for the purpose set forth.

3. The upper bolster-bar, D′, having horizontal ends, in combination with the lower bolster-bar, D″, having its ends extended beyond the ends of the bar D′, and folded back against them, these two bars composing the whole bolster, substantially as shown.

HARRY C. McCARTY.

Witnesses:
T. H. McCORMICK.
W. M. MOORE.

109 "EXHIBIT No. 2."

(*Claims from File-wrapper of Letters Patent No.* 314,459.)

Having thus described my invention, what I claim as new and desire to secure by letters patent, is:

Cancel.
Insert "A."

1st. In a car truck, side irons connected by transversely extending angle irons, a bolster fitted between said irons, and springs sustained on the side irons supporting the bolster substantially as and for the purpose set forth.

[Matter enclosed between rules erased in copy.]

2d. In a car truck, a bolster consisting of upper and lower bars and supporting angle irons between the bars, A substantially as and for the purpose set forth.

Insert A.

Cancelled. See "B."

3d. Transversely extending angle irons, connecting the side irons or trusses of a car truck, in combination with brake-rigging connected with said angle irons, substantially as and for the purpose set forth.

Erase & insert A^2.

4th. A bolster formed of upper and lower bars, having the ends of the lower bar provided with a lap against which the upper bar abuts, substantially as and for the purpose set forth.

Cancelled per A.

5th. In a car truck, side irons or trusses, in combination with springs supported thereon, and a bolster resting on the springs having on its under sides heads or castings which 110 are fitted to the tops of the springs, substantially as and for the purpose set forth.

HARRY C. McCARTY.

Witnesses:
T. H. McCORMICK.
W. M. MOORE.

* * * * * * *

PHILADELPHIA, PA., *September* 27, 1884.

Hon. Com's'r of Patents, Washington, D. C.

SIR: I hereby amend my application for patent for imp't in car trucks, No. 133,953, filed September 27, 1884, as follows:

Cancel the present 1st claim and insert:

"1st. In a car truck the side trusses consisting of irons A′, A″, A‴, A⁗, in combination with the angle irons B, A [interposed between the upper irons A′ and A″,]* and the bolts B′ which pass through the flanges of said angle irons and also through irons A′, A″ and A‴, substantially as set forth."

A. Erase "B." Insert.

In 2d claim insert after bars, on 3d line, the words,

A. "said angle irons being parallel to said upper and lower bars and bolted thereto through their flanges."

[Matter enclosed between rules erased in copy.]

Erase 4th clause of claim and insert

Per B'. J. A. W. A². Per "B."

3. ["4. The]* "The upper bolster or bar D' having horizontal ends, in combination with the [horizontal]* lower bolster D'' having its ends extended beyond the ends of the bar D' and folded back against them, these two bars composing the whole A bolster [truss]* substantially as shown.

111 Erase the 5th clause of claim.

With regards to the new 1st clause of claim, each of the references has three side irons only, consequently such a construction as I claim cannot be shown therein.

With regard to 2d clause, as amended, Simond's bolster has no angle irons. His truss has them, but even in his truss they are transverse, not parallel to the other irons, as in my bolster. Montz would be a somewhat closer reference, but his pillars are not equivalents, for my angle irons G, because each of them braces at one point only.

With regard to 3d claim, reconsideration is asked, Montz's brake-rigging is attached to the lower bolster iron, not to any part of the trusses, much less to the angle irons of the trusses.

The construction defined in claim 5 is not shown. Meatyard's truss consists of three irons. The lower one is horizontal, but nothing engages with it and it has no fold. The middle one has a shoulder at each end, and the corresponding ends of the upper iron bear against these shoulders; but the middle iron is not horizontal, but arched.

Respectfully submitted.

HARRY C. McCARTY,
By J. A. WIEDERSHEIM, *Att'y.*

* * * * * * *

132,953. 87.

Hon. Comm'r of Patents:

In the application of Harry C. McCarty car truck, filed June 5, '84, No. 132,953, the following am't is hereby made:

112 Cancel claim 3.

In claim 4, (hereafter 3), cancel "or" between "bolster" and "bar" on 1st line. On the last line of said claim change "truss" to "bolster." The correction of this error relieves the claim from the direct application of the reference which shows a truss (not a bolster) having the ends of the lower bar turned back against the end of the upper bar, or shoulder so as to effect the same result.

In claim 1, cancel the words:

"Interposed between the upper irons A' and A'',"" and insert "each

[* Words and figure enclosed in brackets erased in copy.]

of which extends across the space between the upper irons A′ and A″."

Ferry has angle irons extending half way across with rounded heads which meet in the middle. Kellogg & Seaver do not have the bolts passing through the flanges of the angle irons nor through 3 other irons.

Resp'y submitted.

H. C. McCARTY,
By W. H. BABCOCK,
A. HORNEY.

114 UNITED STATES PATENT OFFICE.

HARRY C. MCCARTY, of Williamsport, assignor of one-half to John F. Bickel, of Morton, Pennsylvania.

Car-truck.

Specification forming part of Letters Patent No. 339,913, dated April 13, 1886. Application filed August 31, 1883. Serial No. 105,182. (No model.)

To all whom it may concern:

Be it known that I, Harry C. McCarty, a citizen of the United States, residing in Williamsport, county of Lycoming, State of Pennsylvania, have invented a new and useful improvement in car-trucks, which improvement is fully set forth in the following specification and accompanying drawings, in which—

(Here follows diagram marked p. 113.)

Figure 1 is a side elevation of a car-truck embodying my invention. Fig. 2 is a side elevation of the upper and lower bolster thereof embodying my invention. Fig. 3 is a top or plan view of the upper bolster. Fig. 4 shows a side elevation of a truss rod seat.

Similar letters of reference indicate corresponding parts in the several figures.

My invention consists of the construction of a metallic bolster of car-trucks, as will be hereinafter fully set forth.

In the drawings, A represents the side irons of a car-truck, and B the supporting-columns thereof.

C represents the upper bolster of the truck, the same being sustained on the springs D; and E represents the lower bolster thereof, which rests on the side irons and sustains said springs D.

The upper bolster is formed of the top iron bar, F, and lower iron bar, G, the bar F being arched and bolted at its ends to the bar G, and between the bars are the supporting metallic columns H, which rest on the bar G, and on which the crown or central portion of the bar F rests, said bars and columns being firmly bolted together.

J represents the side bearings, which rest on and are bolted to the bar F, and have connected with them the ends of the truss-rods K, which are of inverted-arch form.

Bolted or otherwise secured to the bar G are truss-rod seats L, which depend from said bar and form the seats for the arch portions of the truss-rods K.

Interposed between the bars F G, beneath the bearings J, are short columns M, which sustain the contiguous portions of said bars, and are secured thereto by bolts N, which pass through the bar G, the columns M, bar F, and bearings J, thus firmly connecting said parts.

(No Model.)

H. C. McCARTY.

CAR TRUCK.

No. 339,913. Patented Apr. 13, 1886.

No. 9.
McCarty et al
v.
Lehigh R.R.
p. 113

Fig. 1.

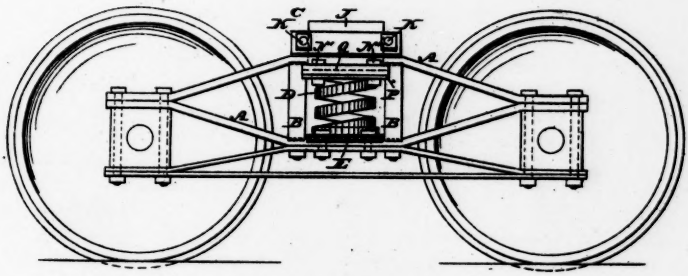


Fig. 2.

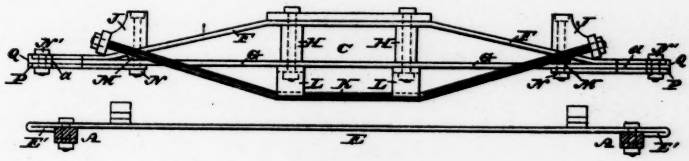


Fig. 3.

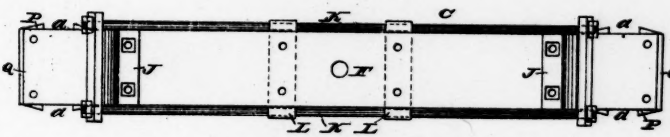


Fig. 4.



WITNESSES:
L. Drouille
H. S. Hickox

INVENTOR:
Harry C. McCarty,
BY John C. Richardson
ATTORNEY.

On the under side of the ends of the bar G are secured the plates P, whose sides are notched or grooved, as at *a*, to receive the columns B of the side irons, said plates thus forming the end guides and supports of the upper bolster.

The ends of the bar G are turned upwardly, forming flanges Q, against which the ends of the bar F abut.

Bolts N′ are passed through the bars F G and plates P, which, with the bolts N, employed to secure the plates P to the bar G below the columns M, serve to connect the end portions of the bolster in a firm and durable manner, it being evident that the bolster, as described, is a strong, serviceable, and reliable structure, without possessing great weight.

The lower bolster, E, is bolted to the side irons, and has its ends bent under, as at E′, Fig. 2, so as to abut against said side irons and crimp said ends, which thus possess increased strength and are securely held in position.

Having thus described my invention, what I claim as new, and desire to secure by letters patent, is—

1. As an improvement in car-trucks, the hereinbefore-described bolster, composed of bars connected together at their ends, and having their centers united and held in relative vertical positions by means of posts and bolts, in combination with the truss-rods, substantially as and for the purpose set forth.

2. The truss-rods K, in combination with the upper bolster-bar, bearings J, for said truss-rods, which are secured to said bolster, the interposed block M, and the truss-rod seats L, which are interposed between said bolster and said truss-rods, substantially as and for the purpose set forth.

3. The lower bar, G, having flanges Q turned up on its ends, in combination with the arched upper bar, F, having its ends bearing against said flanges, the guide-plates P, bolted to the ends of said bars under the same, the stops or blocks M, inserted between bars F and G, near their ends, and the pillars H, also interposed between said bars, as stated.

4. The upper bolster composed of the bent bar F, straight bar G, and interposed columns M, in combination with the plates P, secured beneath the bars F G at their ends, and notched or grooved on their sides at *a*, to receive the columns B of the side irons, substantially as and for the purpose set forth.

H. C. McCARTY.

Witnesses:
JOHN A. WIEDERSHEIM,
W. F. KIRCHER.

116 "EXHIBIT No. 3."

(*Claims from File-wrapper of Letters Patent No.* 339,913.)

Having thus described my invention, what I claim as new and desire to secure by letters patent, is:

Erase & insert "B."

1st. The upper bolster bar A of a car truck formed of an arch top bar, a bottom bar, and columns on which the arch of the top bar is sustained substantially as and for the purpose set forth.

[Substitute A.]*

2d. A truck bolster formed of the upper and lower bars bolted together, the lower bar having end flanges and the end of the upper bar abutting against said flanges, substantially as and for the purpose set forth.

3d. In a truck bolster upper and lower bars in combination with truss rods substantially as and for the purpose set forth.

4th. Truss rods in combination with side and truss bearings and truss-rod seats, substantially as and for the purpose set forth.

5th. A truck bolster provided on its ends with supporting and guiding plates, substantially as and for the purpose set forth.

Erase per "E."

5 [6]*th. The lower bolster of a car truck formed of a bar with its ends turned
117 back on itself abutting against the side irons and crimping the ends, substantially as and for the purpose set forth.

H. C. McCARTY.

Witnesses:
JOHN A. WIEDERSHEIM.
W. F. KIRCHER.

* * * * * * *

WASHINGTON, D. C., *October* 23*d*, 1883.

Hon. Com'r of Patents:

The application of Harry C. McCarty for patent on car trucks filed August 31, 1883, No. 105,182, is hereby amended by canceling claims, 3d, 4th and 5th and substituting therefor the following:

[Matter enclosed between rules erased in copy.]
[* Words and figure enclosed in brackets erased in copy.]

[Cancelled, see B.]*

Erase per "E."

A.

Per B.

Erase & insert "D."

"3d. A car-truck bolster consisting of an upper and a lower bar in combination with truss rods substantially as stated.

3 [4th].* The truss rods K in combination with the upper bolster A (bar) bearings J for said truss rods which are secured to said bolster A (the interposed block W) and the truss-rod seats L which are interposed between said bolster and said truss rods substantially as set forth.

4 [5]*th. A truck bolster provided at its ends with plates which are notched to fit upon vertical parts of the frame so as to serve as guides and supports for said bolster substantially as set forth."

The upper bolster of the reference is only a solid beam. It has no upper and lower bar. The truss rods are attached to it. The lower bolster has no truss rods. Possibly the claims may have been misunderstood.

118 We do not claim an upper and lower bolster, but the upper and lower bars which constitute the upper bolster, in combination, &c.

Respectfully,

HARRY C. McCARTY,
By W. H. BABCOCK, *Attorney.*

* * * * * * *

WASHINGTON, D. C., *May* 23, 1884.

87. 105,782.

Hon. Commissioner of Patents:

In the matter of the application of Harry C. McCarty for letters patent for an improvement in car trucks, filed August 31st, 1883, the following amendment is hereby made.

Cancel claims 1, 2 and 3 and substitute:

[Matter enclosed between rules erased in copy.]
[* Words and figures enclosed in brackets erased in copy.]

["B."]*
[Erase & insert "C."]*

1st. The lower bolster of a car truck and the spring resting thereon in combination with an upper bolster which bears on said spring and consists of an arched bar, a straight bar below said arched bar, and pillars interposed between said bars substantially as set forth.

2d. The lower bar G having flanges Q turned up on its ends in combination with the arched upper bar F having its ends bearing against said flanges the guide-plate P bolted to the ends of said bars under the same, the stops or blocks M inserted between bars F and G near their ends and the pillows H also interposed between said bars as stated."

["B."]*
Erase per "E."

On line 4 of claim 4 (hereafter 3) insert after "bolster" the words "the interposed blocks M."

119 Goff does not show any lower bolster bar; and of course has no interposed spring. The blocks M seem to be a new feature. Goff has no truss rods.

Respectfully submitted.

HARRY C. McCARTY,
By W. H. BABCOCK, *Attorney.*

* * * * * * *

WASHINGTON, D. C., *June* 26, 1884.

87. 105,782.

Hon. Commissioner of Patents:

In the matter of the application of H. C. McCarty for letters patent for an improvement in car trucks, filed August 31, 1883, the following amendment is hereby made:

Cancel claim 1 and substitute the following therefor:

"C."
Erase & insert "D."

"1st. The lower bolster, E, extending across the truck and the springs, D, resting thereon as the ends thereof, in combination with an upper bolster, C, parallel to E, and resting on said springs; said upper bolster consisting of an arched bar, F, a straight bar, G, below said arched bar and interposed pillars, H, substantially as set forth."

[Matter enclosed between rules erased in copy.]
[* Words enclosed in brackets erased in copy.]

The peculiar construction of the upper bolster is shown in figure 2, and seems to be new. The second figure of Thurston and Ledyard shows something that has a superficial resemblance; but closer investigation will establish that this figure is a representation of the slide of a truck (like my Fig. 1), and therefore illustrates the longitudinal devices and not the construction of the bolsters.
120 Their 1st figure shows their bolsters; and they are very unlike mine. I have added reference letters to make the scope of said claim more clear and concise.

Respectfully submitted.

H. C. McCARTY,
By W. H. BABCOCK, *Attorney.*

* * * * * * *

WASHINGTON, D. C., *July* 18, '84.

87. 105,182.

Hon. Comm'r of Patents:

In the application of H. C. McCarty for patent for improvement in car trucks, filed August 31, '83, No. 105,182, the following amendment is hereby made:

Cancel claim 1 and substitute:

"D."
Erase & insert
"E."

"1st. In a car truck, a bolster extending across the truck and consisting of an arched bar, F, a straight bar, G, below said arched bar, and the pillars, H, interposed between said straight bar and said arched bar substantially as set forth."

The latest official letter seems to indicate a misunderstanding. There is not the least intention of claiming broadly "the combination of an upper and lower bolster with interposed springs."

Cancel claim 4 and substitute:

Erase per E.
[D.]*

"4th. The upper bolster composed of the bent bar, F, straight bar, G, and interposed columns, M, in combination with plates P, secured between the bars F, G, at their
121 ends, and notched or grooved on their sides, at *a*, to receive the columns, B, of the side irons, substantially as set forth."

Respectfully submitted.

H. C. McCARTY,
By W. H. BABCOCK, *Attorney.*

* * * * * * *

[Matter enclosed between rules erased in copy.]
[* Letter enclosed in brackets erased in copy.]

PHILADELPHIA, PA., *September* 10, 1885.

Hon. Commissioner of Patents, Washington, D. C.

SIR: I hereby further amend my application for patent for car truck, No. 105,182, filed August 31, 1883, as follows:

Erase claims and insert—

"E."

"1st. As an improvement in car trucks, the hereinbefore-described bolster composed of bars connected together at their ends and having their centres united and held in relative vertical positions by means of posts and bolts, in combination with the truss rods, substantially as and for the purpose set forth.

Erase & insert "F."

"2d. In a car truck, a bolster extending across the truck and consisting of the bar, F, the bar G below said bar F, and the pillars, H, interposed between said bars, substantially as and for the purpose set forth.

"3d. The truss rods, K, in combination with the upper bolster bar, bearings, J, for said truss rods which are secured to said bolster, the interposed block, M, and the truss-rod 122 seats, L, which are interposed between said bolster and said truss rods, substantially as and for the purpose set forth.

Cancelled. Amendment, Nov. 27, 1885. ["E."]*

"4th. A truck bolster formed of the upper and lower bars, bolted together, the lower bar having end flanges and the ends of the upper bar abutting against said flanges, substantially as and for the purpose set forth.

3 ["5th].* The lower bar, G, having flanges, Q, turned up on its ends, in combination with the arched upper bar, F, "E." having its ends bearing against said flanges, the guide-plates, P, bolted to the ends of said bars under the same, the stops or blocks, M, inserted between ^bars, F and G, near their ends and the pillars, H, also interposed between said bars, as stated.

1/ ["6th.]* The upper bolster composed of the bent bar, F, straight bar, G, and interposed columns, M, in combination with the plates P, secured ^beneath [between]* the bars F, G, at their ends, and notched or grooved on their sides at *a* to receive the columns, B, of the side irons, substantially as and for the purpose set forth."

Insert, Oct. 17, 1885.

H. C. McCARTY,
By JOHN A. WIEDERSHEIM, *Att'y.*

* * * * * * *

[Matter enclosed between rules erased in copy.]
[† Words and figures enclosed in brackets erased in copy.]

Hon. Commissioner of Patents, Washington, D. C.

SIR: I hereby further amend my application for patent for car truck No. 105,182, filed August 31, 1883, as follows:

Erase 1st, 2d and 3d clauses of claim, — insert:

123 "1st. As an improvement in car trucks, the herein-before-described bolster, composed of bars connected "F." together at their ends, and having their -entres united and held in relative vertical positions by means of posts and bolts, in combination with the truss rods, substantially as and for the purpose set forth.

Cancelled per amendment Nov. 27, 1885.

"2d. In a car truck, a bolster extending across the truck, and consisting of the bar F, the bar G, below said bar F, and the pillars H, interposed between said bars, substantially as and for the purpose set forth.

"2 [3d].* The truss rods K, in combination with the upper bolster bar, bearings J, for said truss rods, which are secured to said bolster, the interposed block M, and the truss-rod seats L, which are interposed between said bolster and said truss rods, substantially as and for the purpose set forth."

H. C. McCARTY.

* * * * * * *

PHILADELPHIA, PA., *Oct.* 16, 1885.

Hon. Commissioner of Patents, Washington, D. C.

SIR: I hereby further amend my application for patent for car trucks, No. 105,182, filed August 31, 1883, as follows:

In 6th claim erase "between," and insert "beneath."

H. C. McCARTY,
By JOHN A. WIEDERSHEIM, *Att'y.*

124 PHILADELPHIA, PA., *Nov.* 25, 1885.

Hon. Commissioner of Patents, Washington, D. C.

SIR: I hereby further amend my application for patent for car truck, No. 105,182, filed August 31, 1883, as follows:

Erase 2d and 4th clause of claims.

Adjust ordinals.

The case is now believed to be in condition for interference, and an early action is requested on the same.

H. C. McCARTY,
By JOHN A. WIEDERSHEIM, *Att'y.*

[Matter enclosed between rules erased in copy.]
[* Figure and letter enclosed in brackets erased in copy.]

125 "EXHIBIT No. 4."

(*Extract from File-wrapper of Interference Between McCarty and Montz.*)

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
WASHINGTON, D. C., *Dec.* 10, 1885.

Ex'r of interference-, Dec. 11, '85.

Examiner of interferences:

An interference is found to exist between the following cases, and in respect to the invention therein specified, to wit:

Cases.

1. Wm. H. Montz, of Lehighton, Pa., for car truck, filed Sept. 10, 1883; Ser. No., 106,045, patent No. 291,382, Jan. 1, '84, whose attorney is Prindle & Russell, of Washington, D. C.

2. Harry C. McCarty, of Williamsport, Pa., for car truck, filed Aug. 31, 1883; Ser. No. 105,182, whose attorney is J. A. Wiedersheim, of Phila., Pa.

Invention.

1st. A car-truck bolster composed of bars connected together at their ends and having their centers united and held in relative positions by means of posts and bolts, in combination with truss rods.

2d. Truss rods, in combination with the upper bolster bar, end bearings to said bolster, interposed blocks, and truss-rod seats which are interposed between the bolster and truss rods.

Being substantially McCarty's claims 1 and 2 and same matter covered by Montz' claims 2 and 3.

H. P. SANDERS, *Ex'r.*

126 To the Commissioner of Patents:

In the Matter of the Preliminary Interference between the Application of H. C. MCCARTY for Patent for Improvement in Car Trucks and the Patent of WM. H. MONTZ, No. 291,382, dated Jan'y 1, 1884, for like device.	Before the Examiner of Interferences.

Preliminary Statement of William H. Montz.

Affidavit.

COUNTY OF WASHINGTON, *District of Columbia,* } *ss:*

I, Wm. H. Montz, being duly sworn, depose and *and* say, that I am a resident of Lehighton, Pennsylvania, and am the person to whom letters patent No. 291,383, above referred to, were issued upon

the 1st day of January, 1884; that I conceived the invention of the car-truck bolster therein shown before the 25th day of July 1882, and upon the said day made sketches of the same and explained them to others.

Upon the 14th day of September, 1882, an experimental truck, containing said bolster, was completed under my instructions, which truck was immediately put into practical use, and thoroughly tested until the 17th day of April, 1883, when working drawings were made under my supervision for the building of other trucks.

WM. H. MONTZ.

Sworn and subscribed before me this 31st day of December, A. D. 1885.

[L. S.] WILLIAM FITCH,
Notary Public.

127 In the matter of the application of Harry C. McCarty and letters patent of W. H. Montz for car trucks, in interference, before the Hon. Commissioner of Patents, Washington, D. C.

SIR: In the above matter, I beg leave to state that I conceived the invention in June, 1881. I made sketches of the invention in June, 1881, and a model in July, 1882.

I filed a caveat in September, 1882, and an application for patent in August, 1883.

I have not put the invention into use.

H. C. McCARTY.

Sworn and subscribed before me this 17th day of December, 1885.

[L. S.] JOHN A. WIEDERSHEIM,
Notary Public for the Commonwealth of Pennsylvania, Residing in the City of Philadelphia.

* * * * * * *

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
WASHINGTON, D. C., *Feb'y* 24, 1886.

In Re Interference
MONTZ
v.
McCARTY.
} Before the Examiner of Interference.

Subject-matter: Car trucks.

Both parties having failed to file testimony within the time allowed for that purpose, judgment of priority of invention is hereby rendered in favor of Harry C. McCarty, in accordance with rules 107 and 111. Limit of appeal, March 16, 1886.

FRANK McARTHUR,
Examiner of Interference.

130 UNITED STATES PATENT OFFICE.

WILLIAM H. MONTZ, of Lehighton, Pennsylvania.

Car-truck.

Specification forming part of Letters Patent No. 291,382, dated January 1, 1884. Application filed September 10, 1883. (No model.)

To all whom it may concern:

Be it known that I, William H. Montz, of Lehighton, in the county of Carbon, and in the State of Pennsylvania, have invented certain new and useful improvements in trucks for railway-cars; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

(Here follow diagrams marked pp. 128 & 129.)

Figure 1 is a side elevation of a truck containing my improvements. Fig. 2 is an end elevation, partly in section, of the same. Fig. 3 is a plan view of the bolster detached from the truck. Fig. 4 is a side elevation of the same, and Fig. 5 is a perspective view of the cap separated from the bolster.

Letters of like name and kind refer to like parts in each of the figures.

The design of my invention is to increase the strength and durability of the car-trucks; and to this end said invention consists, principally, in the cap employed for connecting the bolster with the frame of the truck, substantially as and for the purpose hereinafter specified.

It consists, further, in the bolster, constructed as shown, and combined with the truck, in the manner and for the purpose substantially as hereinafter set forth.

It consists, finally, in a car-truck in which are combined the cap, bolster, and frame, substantially as and for the purpose hereinafter shown.

In the use of the car-truck shown in the annexed drawings—known as the "Diamond truck"—it has heretofore been customary to employ a wooden bolster, which, in consequence of its lack of strength, would spring downward and allow the car-body to rest upon the side bearings of the truck, and thus destroy the center-bearing character of the latter.

In place of the wooden bolster described, I employ a metal bolster composed of a straight flat bar of metal, A, and an arched metal bar, B, of like or smaller size, which bars are connected together at their ends by welding, bolts, or other like means, and at or near their longitudinal centers are connected and held in relative vertical positions by means of posts C, that are placed between the same, and bolts D, which pass vertically through said bars and posts and through a center plate, E.

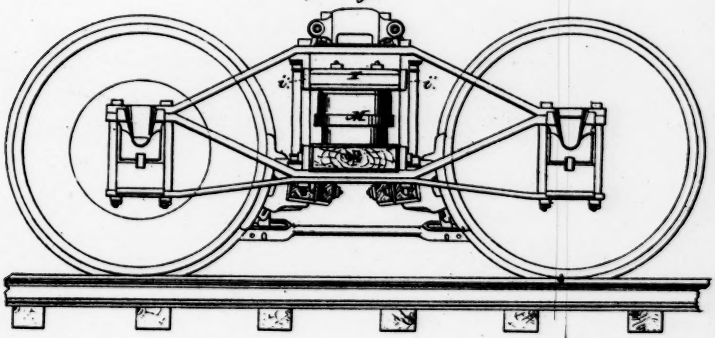
(No Model.) 2 Sheets—Sheet 1.

W. H. MONTZ.

CAR TRUCK.

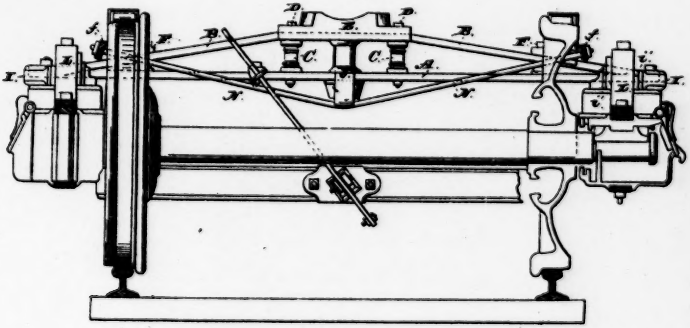
No. 291,382. Patented Jan. 1, 1884.

Fig. 1.



Hog
McCauley dec'd } p. 128
Lehigh RR

Fig. 2.



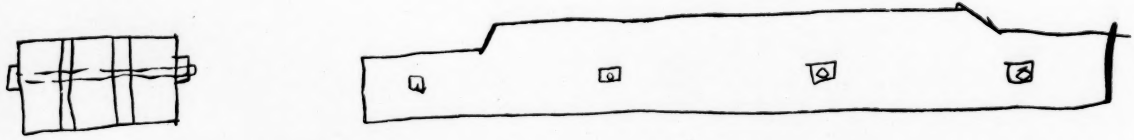
Witnesses:
Jas. E. Hutchinson.
Henry C. Hazard.

Inventor.
Wm H. Montz, by
Crindle & Russell, his Attys

Complainants Ex
No 11

McClaf
LVRR Co

Complainant Exhibit
No 11
Feby 11/79 J L K



Sketch of Balster with two
iron plates & three pieces
of timber 1880

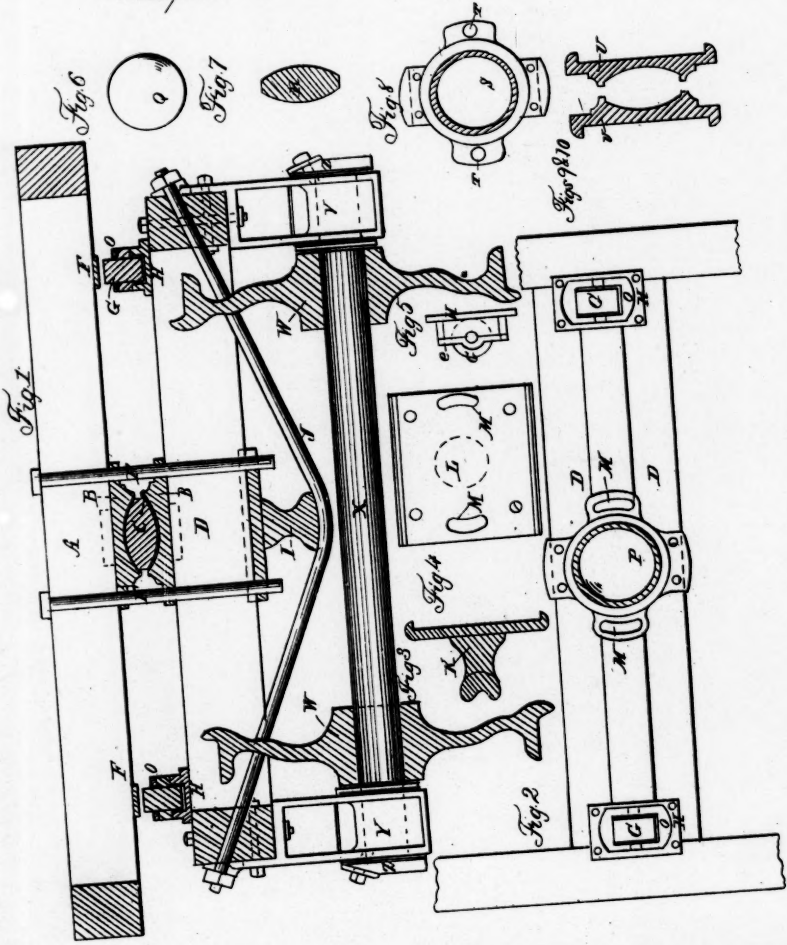
T. E. ROBERTS.

Car Truck.

Patented Aug. 16. 1859.

No. 25,139.

no. 9 McCarty et al. v. Lehigh R.R. } p. 133



At suitable points near the ends of the bolster I place side bearings, F, which are secured in position by means of bolts G, that pass vertically through said bearings, the plates A, and through interposed posts or thimbles H.

In connection with each end of the trussed bolster described, I employ a cast-metal cap, I, which has the general form shown in Fig. 5, and is provided with a horizontal recess, *i*, that corresponds to and receives the end of said bolster, to which end said cap is screwed by means of two bolts, K, that pass vertically through said parts. The cap I fits between the arch-posts L of the frame and rests upon a spring, M, and is provided at each side with flanges *i'*, which embrace the outer and inner faces of said posts and prevent longitudinal motion of the bolster, while permitting the same to move freely in a vertical direction. The bolster as described possesses sufficient rigidity to enable it to support with safety its proportion of the load of a car having a carrying capacity of fifty thousand pounds or less; but when used with cars having greater capacity than that named a truss-rod, N, is placed upon each side of said bolster, with its ends passing through lugs *f*, that are cast upon the side bearing, F, and its central portion extended beneath a post, O, which extends downward from the center of the bar A or from the central post, C.

The construction of bolster and cap shown materially increases the strength and durability of the truck, and enables the same, without other change, to be adapted for use beneath cars having any desired carrying capacity.

Having thus fully set forth the nature and merits of my invention, what I claim as new is—

1. As a means for connecting the bolster with the truck-frame, the cap I, having the form shown, and provided with the recess *i* and side flanges, *i'*, substantially as specified.

2. As an improvement in car-trucks, the hereinbefore-described bolster, composed of the bars A and B, connected together at
131 their ends, and having their centers united and held in relative vertical positions by means of the posts C and bolts D, in combination with the truss-rods N, substantially as and for the purpose shown.

3. The hereinbefore-described car-truck, in which the trussed bolster, cap, and frame are constructed and combined in the manner and for the purpose substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 24th day of May, 1883.

WILLIAM H. MONTZ.

Witnesses:
THOMAS C. BECK.
GEO. S. PRINDLE.

(Here follow diagrams marked pp. 132 and 133.)

135 UNITED STATES PATENT OFFICE.

EDWIN THURSTON and JAMES R. LEDYARD, of Covington, Kentucky.

Improvement in Car-trucks.

Specification forming part of Letters Patent No. 47880, dated May 23, 1865.

To all whom it may concern:

Be it known that we, Edwin Thurston and James R. Ledyard, of Covington, in the county of Kenton, State of Kentucky, have invented a new and useful improvement in railroad-car trucks; and we do hereby declare that the following is a full and clear description of the construction of the same, reference being had to the annexed drawings and letters of reference marked thereon, making a part of this specification, in which—

(Here follows diagram marked p. 134.)

Figure 1 is a front elevation through middle of truck, showing bolsters B and C, also end piece, A, with manner of putting same together. Fig. 2 is an end elevation of truck with portion of end piece, A, detached, showing ends of bolsters B and C. Fig. 3 shows top view of end casting, A. Fig. 5 shows top view or plan of top bolster, B. Fig. 4 shows top view or plan of bottom bolster, C.

The arch-bars, friction-irons, boxes, springs, and center-bearing casting are old, so that we make no claim upon them.

The nature of our invention consists in construction and use of skeleton iron bolsters with cast end pieces or housings, put together in the manner herein described, and shown forth in the annexed drawings.

To enable others skilled in the arts to make and use our invention, we describe its construction as follows:

Fig. 5: The top bolster, B, we form of two pieces of T-iron, placed parallel, upon the top and each end of which are fastened by rivets or bolts the plates 1, as shown in annexed drawings, the outer corners, 2, of which are cut out so as to work in cast end-pieces, A. The friction irons 3 are also fastened on these same plates. The central plate 1′, is for the further securance of center-bearing casting 3′.

Fig. 4: The bottom bolster, C, is also formed of two pieces of T-iron, placed parallel, and upon which, at each end, inside of arch-bars, are fastened by bolts or rivets the plates 5, which afford a bed for springs to rest on.

Fig. 3: The cast end piece, A, is made of any desired form, so as to answer the purpose of a brace for arch-bars 4 as well as for bottom bolster, C, and also a guide and stop for top bolster, B, as shown forth in annexed drawings.

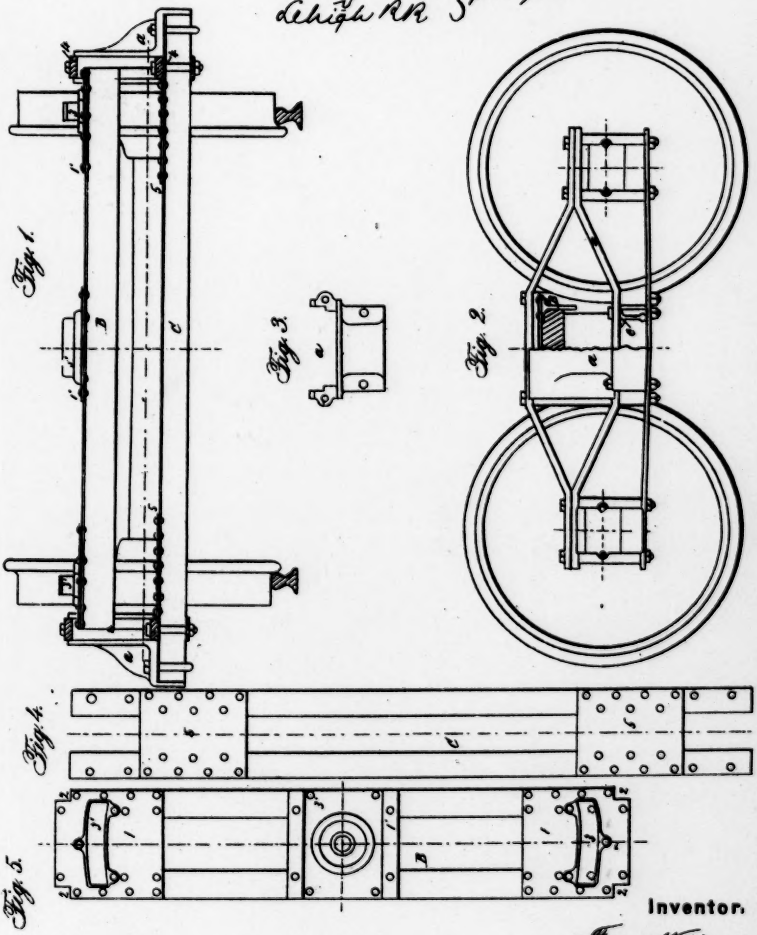
What we claim as our invention, and desire to secure by letters patent, is as follows:

THURSTON & LEDYARD.

Car Truck.

No. 47,880. Patented May 23, 1865.

No 9
McCalley chal } p. 134
Lehigh RR



Inventor.

Thos. C. Kelly
Atty for
Aaron Thurston and
Thomas Ledyard

1. The construction and use of skeleton iron bolsters B and C, which admit of great strength and durability, and be used either as center bearings or side bearing.

2. The construction and use of the cast end piece, A, which serves to stiffen and brace arch-bars and lower bolster, also serves as a guide for top bolster to work in, and, in connection with bolsters, forming a truck, combining strength, durability, and lightness, with ease of access in all its parts for repairs.

EDWIN THURSTON.
JAMES R. LEDYARD.

Witnesses:

J. L. HACKATHORN.
Q. A. KEITH.

138 UNITED STATES PATENT OFFICE.

H. THIELSEN, of Burlington, Iowa.

Improved Railway-car Truck.

Specification forming part of Letters Patent No. 90795, dated June 1, 1869.

To all whom it may concern:

Be it known that I, H. Thielsen, of Burlington, in the county of Des Moines and State of Iowa, have invented certain new and useful improvements in the construction of metallic railroad-car trucks; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

(Here follow diagrams marked pp. 136 and 137.)

Figure 1, sheet 1, is an elevation of one end of the improved truck mounted upon a track. Fig. 2, sheet 1, is a top view of the same. Fig. 3, sheet 1, is an elevation of one side of the truck. Fig. 4, sheet 2, is a vertical central section taken through the improved truck in the plane indicated by line *y y* in Figs. 2 and 3. Fig. 5, sheet 2, is a cross-section taken through the truck in the vertical plane indicated by line *x x* in Figs. 1 and 2. Fig. 6, sheet 2, is a section similar to that of Fig. 5, showing a modification of the cross-beams. Fig. 7, sheet 2, is a perspective view of one of the metallic head-pieces constituting a part of the supporting-beams.

Similar letters of reference indicate corresponding parts in the several figures.

The object of this invention is to improve those parts of a railroad-car truck which are employed for sustaining a car-body upon its trusses and relieving it from concussions and undue oscillations, by so constructing them that they will possess greater strength, durability, and lightness than hitherto.

The nature of my invention consists, first, in constructing the horizontal cross-beams, upon which the load is supported, as will be hereinafter explained, either of channel-irons (a section of which is shown in Fig. 6) or else of wrought-iron plates arranged edgewise and stiffened by means of angle-iron bars secured rigidly to their upper and lower edges; and in securing such beams to strong and metallic head-pieces which are adapted for connecting the beams together at their ends and securing them to the side trusses of the tracks; secondly, in a horizontal metallic swing-beam, which is made tubular, and in such manner as to afford great strength and inflexibility, combined with extreme lightness, said beam being adapted for receiving vertical support for the transom, shoulder abutments for the springs, and side guides for preventing forward and backward motion between the cross-beams; thirdly, in a

2 Sheets—Sheet 1.

H. THIELSEN.

Car-Truck.

No. 90,795. Patented June 1, 1869.

Fig. 1

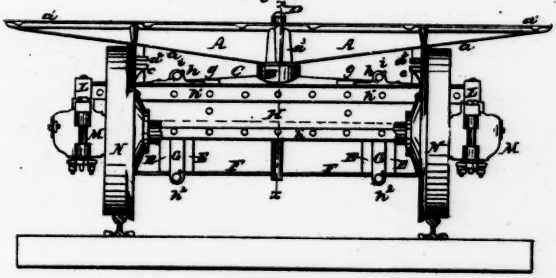
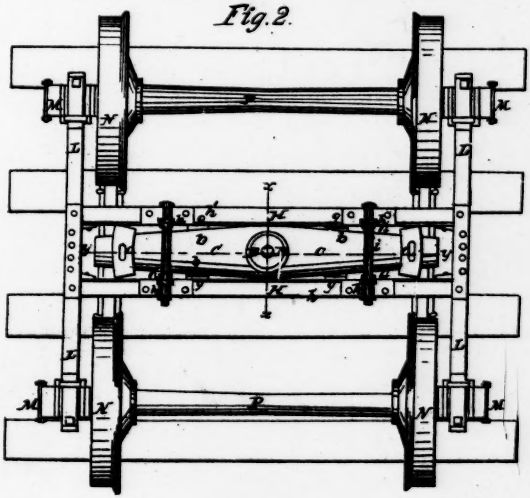


Fig. 2.



Witnesses
R. F. Campbell.
J. N. Conners

No. 9.
McCarty et al.
v.
Lehigh R.R.
p. 136

Inventor.
H. Thielsen
by
Brown Brownell & Lawrence

metallic flanged transom, which is constructed with a truss-rib for strengthening it, and also with a central step, which will assist in keeping it in its place and allow it to vibrate in its socket-bearing upon the swing-beam, all as will be hereinafter explained.

To enable others skilled in the art to understand my invention, I will describe its construction and operation.

In the accompanying drawings I have represented my improved girders or cross-beams H H applied to side trusses L L, by means of strong cast-iron boxes or head-pieces K K, which trusses may be applied to the journal-boxes M on the axles P of wheels N′, and constructed in the usual well-known manner, or in any other suitable way.

Each one of the cross-beams H consists of a thin plate of wrought-iron, which is arranged in the truck so that the whole of the vertical strain is supported by the depth of the plate, or in a direction with its width, and which is stiffened so as to resist forward and backward vibration by means of angle-iron bars h^1 h^1 arranged along its upper and lower edges, and riveted to it, as shown in Figs. 1, 3, and 5.

The beam thus constructed is very light, and also possesses great strength and rigidity. Being made of wrought-iron, say boiler-iron, it will not be weakened by long usage, nor liable to break by sudden shocks. Each one of these beams may be made of a single piece of wrought metal bent in the form known as channel-iron, as represented in Fig. 6 at H′, which will render unnecessary the riveting on of the angle-pieces, and possess a capability of sustaining vertical strain equal, or nearly so, to the compound cross-beam H above described.

The cross-beams are firmly riveted to the vertical sides k k^3 of head-pieces K K by means of rivets, which leave a vertical space between the beams large enough to receive the swing-beam C upon which rests the transom A, as shown in the drawings.

The head blocks or pieces K are constructed of rectangular form, with flanges k k^1 k^3 and central strengthening divisions k^2, as
139 shown in Fig. 7, thus adapting these heads to receive on their vertical sides the beams H, and on their horizontal sides the trusses L L, and having the said parts rigidly secured together. In this manner not only the heads K can be secured to the trusses, but the flanges or angle-irons h^1 h^1 can be secured at their ends to the trusses.

Within the vertical space included between the cross-beams H H and their heads K K is a swing-beam, C, which is somewhat shorter than the cross-beams H, for allowing it to receive endwise play, and which is sustained by means of suitable springs E E upon a horizontal stand-board, F, as clearly shown in Fig. 4. The stand-board F rests upon horizontal swivel-stirrups h^2, applied to the lower ends of two pairs of hangers, G G. These hangers are suspended from rods i i which have their bearings in blocks h h that are bolted on top of the cross-beams H H. The springs E E are interposed between the stand-board F and flat-faced bearings c^1 c^1, which are formed on or applied to the bottom of the swing-beam, as shown in

Fig. 4; and these springs may be retained in their places by means of the through-bolts or guide-pins c^2. This allows the swing-beam a free elastic play vertically, and also allows it to swing freely in a direction with its length, to prevent undue lateral motion being communicated to the car-body.

Near the extremities of the swing-beam C, on top thereof, are the vertical supports *c*, for steadying the ends of the transom vertically, and at the middle of the length of this swing-beam, and on top thereof, a circular socket-bearing, B, is constructed, for receiving a corresponding step formed on the lower edge, and in the middle of the length of the transom A, as shown in Figs. 4, 5, and 6. A hole is made vertically through the center of the swing-beam for receiving the king-bolt D, that unites the transom to it, which bolt also passes down through a hole made through the stand-board, as shown in Figs. 1, 4, 5, and 6. The swing-beam is made hollow, of cast or wrought metal, and in cross-section it may be circular or elliptical, while in longitudinal section it may taper from the middle of its length to its extremities. Such a beam will be very light, yet possess great strength for resisting vertical strain and shocks.

It is prevented from receiving forward and backward or lateral play between its beams H H by means of vertical offsets *b b*, which slide vertically and horizontally against corresponding offsets or guides *g g* on the inner surfaces of the said beams, as clearly shown in Figs. 5 and 6. Said offsets will also sustain the swing-beam against rocking about its longitudinal axis by holding it squarely in its place.

The transom or bolster A is composed of a single piece of cast-iron, and has a horizontal surface, terminating in flanged edges a^1 a^1, adapted for receiving bolts through them for securing this transom to the bed of a car-body. It is strengthened vertically by the tapering or truss rib *a*; and it is also constructed with pendants a^2 a^2, which afford slides and abutments for the bearings *c c*.

Having described my invention, what I claim as new, and desire to secure by letters patent, is—

1. The cross-beams H, composed of plates arranged on edge, stiffened by means of angles along their upper and lower edges, and united at their ends to head-pieces K, substantially as described.

2. The construction of head-pieces K for the cross-beams, with flanges *k* k^1 k^3, and interior strengthening wall k^2, substantially as and for the purposes described.

3. A tubular swing-beam, C, for a railroad-car truck, constructed substantially as described.

4. The construction upon a tubular swing-beam, C, of a socket-bearing, B, and side-stays *b*, substantially as described.

5. The construction of one piece of metal of a transom, A, with flanges a^1, rib *a*, and bearings a^2, substantially as described.

H. THIELSEN.

Witnesses:
A. E. TRUZAHN.
J. W. AMES.

(No Model.)

G. B. SIMONDS.

CAR TRUCK.

No. 252,531. Patented Jan. 17, 1882.

Fig. 1

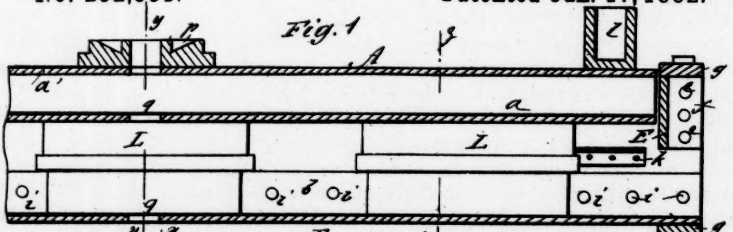


Fig. 3

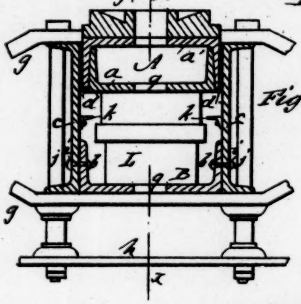


Fig. 4

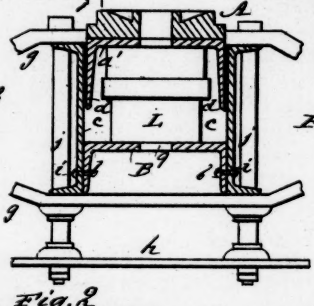
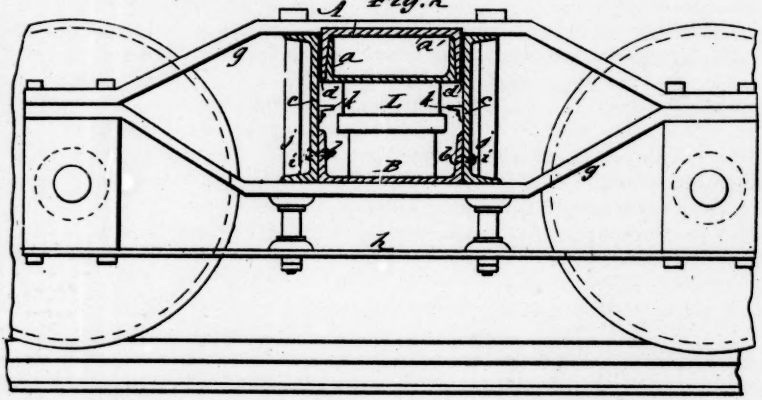


Fig. 2



WITNESSES:

C. Neverra

C. Sedgwick

No. 9. McCartydat } p. 140
v. Lehigh R.R.

INVENTOR:

G. B. Simonds

BY Munn & Co.

ATTORNEYS.

141 UNITED STATES PATENT OFFICE.

GUSTAVUS B. SIMONDS, of Albuquerque, Territory of New Mexico.

Car-truck.

Specification forming part of Letters Patent No. 252,531, dated January 17, 1882. Application filed October 21, 1881. (No model.)

To all whom it may concern:

Be it known that I, Gustavus B. Simonds, of Albuquerque, in the county of Bernalillo and Territory of New Mexico, have invented certain useful improvements in car-trucks, of which the following is a full, clear, and exact description.

My invention relates to that class of railroad-trucks known as the "diamond truck;" and it consists of such improvements in the construction of the bolster that the truck will be firmer and more rigid than heretofore, and may be run with safety should a spring (one or both) lose out or get broken, the spring-hanger and sand-boards being entirely dispensed with.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

(Here follows diagram marked p. 140.)

Figure 1 is a central longitudinal sectional elevation of my improved truck-bolster, taken on the line *x x* of Fig. 3. Fig. 2 is a sectional elevation taken on the line *y y* of Fig. 1. Fig. 3 is a sectional elevation taken on the line *z z* of Fig. 1; and Fig. 4 is a similar sectional view, showing a modification.

The arch-bars *g g*, pedestal tie-bar *h*, and transom-pillars *j j* are of the usual construction.

The transom-plates *c c* are secured at their lower edges by the series of bolts or rivets *i i* to the flanges *b b* of the bottom channel bar or plate, B, and the ends of the transom-plates are tied together by the series of bolts *e e* passing through the flanges *f f* of the tie-plate E, as clearly shown in Fig. 1.

Upon the bottom channel bar or plate, B, are placed the springs L L, upon which is placed the truck-bolster A. The truck-bolster is preferably formed by uniting the channel bars or plates *a a'*, as shown in Figs. 2 and 3; or it may be formed of the single channel bar or plate *a'*, as shown in Fig. 4, the side flanges, *d d*, being lengthened for the purpose hereinafter mentioned.

To the inner walls of the transom-plates *c c* are bolted the stops *k k*, which are adapted to support the bolster A in case a spring should break or lose out.

In some instances the bottom channel bar or plate B will be bolted between the transom-plates with the flanges *b b* downward, as shown in Fig. 4. In this construction the flanges *d d* of the channel-plate

a' may be lengthened, so as to rest upon the plate B in case any difficulty should happen to the springs, in which case, of course, the stops *k k* will not be required.

Upon the upper side of the channel-bar *a'* is formed the ordinary side bearing *l*, and the center plate, *p*, through which latter the king-bolt passes, and the channel-plate *a* and the bottom plate, B, are provided with the holes *q q*, for the passage of the king-bolt entirely through the bolster, upon the under side of which it is adapted to receive a key.

The bolster thus constructed renders the truck very firm and rigid, so that the truck is not liable to get out of square if run off the track, besides, the danger of throwing the car off the track from the breaking of sand-boards and spring-hangers incident to the breaking and losing out of a spring is entirely overcome.

Having thus fully described my invention, I claim as new and desire to secure by letters patent—

1. The transoms *c c*, provided with the stops *k k*, in combination with the truck-bolster A, substantially as and for the purposes set forth.

2. The truck-bolster A, formed of the flanged channel-plates *a a'*, the flange of the plate *a* fitting in the flange of the plate *a'*, substantially as shown and described.

3. The combination, with the channel bar or plate B, transverse plates *c*, and the springs L, of the channel-plate *a'*, provided with flanges *d*, substantially as and for the purpose set forth.

4. The transom-plates *c c*, bolted to the bottom channel bar or plate, B, and tied together by the tie-plates E, and provided with the stops *k k*, in combination with the bolster A, formed of the channel-plates *a a'*, substantially as and for the purposes set forth.

GUSTAVUS B. SIMONDS.

Witnesses:
HENRY G. FABER.
LEO J. BARR.

(Here follows diagram marked p. 142.)

143 Circuit Court of the United States, Eastern District of Pennsylvania.

HARRY C. MCCARTY and JOHN F. BICKEL
v.
THE LEHIGH VALLEY RAILROAD COMPANY. } In Equity.

SIR: You are hereby notified that on Friday, December 27, 1889, at the office of the "Eastern Railroad Association," 614 F street, N. W., Washington, D. C., at 11 o'clock in the forenoon, I shall proceed to take the depositions of witnesses on behalf of defendant.

You are invited to attend and cross-examine.

A. McCALLUM,
Solicitor for Defendant.

Washington, D. C., December 14, 1889.

To Jerome Carty, Esq., counsel for complainants, Record b'ld'g, Philadelphia.

Sketch Whittlesey's
Testimony, Nov 2/89
J. L. K
Spec Ex.



metal body holder

Service of above notice acknowledged.

JEROME CARTY,
Counsel for Complainants.

144 United States Circuit Court, Eastern District of Pennsylvania.

HARRY C. McCARTY and JOHN F. BICKEL
v.
THE LEHIGH VALLEY RAILROAD COMPANY. } In Equity.

Testimony taken on part of defendant, in pursuance of notice herewith, before D. G. Stuart, a notary public, at the office of Andrew McCallum, 614 F street N. W., Washington, D. C., Dec. 27, 1889.

Present: Andrew McCallum, Esq., counsel for defendant.
Jerome Carty, Esq., counsel for complainants.

JOHN S. LENTZ, a witness on part of defendant, being duly sworn, deposes as follows:

Examined by Mr. McCALLAM:

Q. 1. State your name, age, residence, and occupation.

A. John S. Lentz; age, 42; residence, Lehighton, Carbon Co., Penna.; am sup't car dep't, Lehigh Valley R. R. Co.

I was appointed master car-builder in 1880, and changed to my present position last spring.

Q. 2. Are you acquainted with Mr. Harry C. McCarty, one of the complainants in this case?

A. Yes, sir.

Q. 3. Have you read his testimony in this case?

A. Yes, sir, I have. I believe I have read all of it.

Q. 4. Will you please state all the facts within your knowledge respecting the construction of the metal bolsters referred to by him and those which are in use on the car trucks of the Lehigh Valley R. R. Co.

A. In reference to this question I would say that soon after I was placed in charge of the car equipment of the Lehigh Valley R. R. Co., I realized the fact that the wooden truck bolsters used under our cars of 40,000 lbs. capacity were not sufficiently strong to carry the load.

145 I then suggested to Mr. Montz that it was important that something should be done in the matter, and in Sept., 1882, we built a pair of trucks at Packerton shops, with a bolster, as shown in Mr. Montz' patent, No. 291,382, but without the use of the truss rods.

In October of the same year I attended an adjourned meeting of the Master Car-builders' Association at Niagara Falls.

While at this meeting Mr. McCarty showed me a blue print or model, or perhaps both, of a truck similar to the one Mr. Montz had designed.

On my return home I told Mr. Montz what I had seen, and he requested me to get a blue print from Mr. McCarty, which I did.

We afterwards built one car under which we used the bolster with the truss rods, and then 500 cars with the straight bottom bar without the truss rods.

A car with a pair of trucks under it with this form of bolster was sent to Altoona, Pa., by the request of our gen'l superintendent, Mr. Goodwin.

Mr. McCarty wrote me, Oct. 3, 1883, that he had seen a car with centre plates broken; referring to the one sent to Altoona.

I replied to this on Oct. 3, thanking him for the information given me.

After having built about 500 cars with the straight-bar bolster, we discovered that they were breaking. This brought out the idea of the inverted bar, as shown in Mr. Montz' patent, No. 322,741. With the exception of the one car with the truss rod and the 500 with the straight bar, all the iron bolsters made since that time have the inverted bar.

Mr. McCarty came to Packerton frequently on other business. As a rule, the question of trucks was referred to, but I do not remember that anything was said about infringement.

I did not know that his device was patented until several years after we commenced using the bolster.

146 In the summer of 1885, I believe it was, he called at my office and suggested that we agree upon some mutual arrangement for the introduction of the trucks.

My recollection now is that the next time he came to Packerton he should bring his patent papers with him, and this he did shortly after.

In connection with Mr. Montz, I talked over the subject with Mr. McCarty, and as Mr. Montz nor myself could see any infringement on our part, the subject was dropped.

In June, 1885, Mr. Montz had about given up all idea of making any money out of his invention, and Mr. Goodwin, at Old Point Comfort, in June, 1885, with the consent of Mr. Montz, tendered the members of the association the right to use his truck without charge.

Mr. McCarty, I believe, was at this meeting, and so far as I remember took no exceptions to the proposition.

I believe it was after the convention at Old Point Comfort that Mr. McCarty made the proposition to push the introduction of the truck.

(Mr. MCCALLUM, interrupting:)

The convention you refer to is the Master Car-builders' convention, is it not?

A. Yes, sir.

Q. 5. Are the proceedings of that convention printed?

A. Yes, sir.

Q. 6. Please look at the copy of said proceedings now shown you and state if that is a copy of the proceedings for the year 1885.

(Objected to as incompetent as to method of proof and immaterial to the issue in the case if competently proved.)

A. Yes, sir; it is.

Q. 7. Please examine said report and state if you find therein recorded the fact that Mr. McCarty was present and that Mr. Goodwin made the offer you refer to.

(Objected to as incompetent and immaterial.

A. I find on page 5 the name of H. McCarty, Philadel-
147 phia and Erie, recorded as being in attendance at the convention.

On page 53 I find these remarks made by Mr. Goodwin:

"There are patents on it, but the patentees are willing, if it is approved by the association, to donate the patents to public use."

Q. 8. What is referred to as "it"?

A. He referred to a truck brought there by the Lehigh Valley R. R. Co.

Q. 9. Was or not that truck the same as the Lehigh Valley R. R. Co. is now using with the iron or metal bolsters?

A. It was.

Q. 10. Did the blue print Mr. McCarty sent you on request show the truss rods?

A. I am not perfectly clear about that, but I believe it did.

Q. 11. Can you state if it was the same construction as shown by the drawings of the McCarty patent, No. 339,913?

A. I should say that it was.

Q. 12. Did Mr. McCarty show you or send you a drawing of a bolster like that now shown you (Complainants' Exhibit No. 8)?

A. I have no recollection of his having done so.

Q. 13. Please look at the blue print now shown you, and state if you can identify that as the drawing sent you by Mr. McCarty.

A. From all appearances I should say that this is the blue print.

(Defendant's counsel produces this drawing in compliance with request of counsel for complainants, and the same is marked "Defendant's Exhibit McCarty Drawing.")

(Defendant's counsel also offers in evidence a report of the proceedings of the Master Car-builders' Association, referred to by the witness, and the same is marked "Defendant's Exhibit Master Car-builders' Report."

148 (Objected to as incompetent and immaterial.)

Q. 14. Please now compare the McCarty blue print with the drawings of the McCarty patent, No. 339,913, and state if they are the same.

A. They are the same.

Q. 15. Please make the same comparison with the drawing, Complainants' Exhibit No. 8, and state if they are the same or different.

A. They are not the same.

Q. 16. Has the Lehigh Valley R. R. Co. ever used car trucks having bolsters like those shown and described in the McCarty patents, Nos. 339,913 and 314,459?

A. The Lehigh Valley R. R. Co. has not used truck bolsters con-

structed entirely in accordance with patents Nos. 339,913 and 314,459.

We built one car using the truss rods.

Q. 17. Please look at the blue prints now shown you, and state if they truly represent the construction of trucks which the defendant does use.

A. They do. No. 1 shows the construction used under 500 cars, those before referred as having the straight under bars. Nos. 2 and 3 show our present construction. The smaller blue print represents the form of bolster used.

(The drawings referred are those before used in evidence by complainants, and marked for identification in this case. They are now offered in evidence by defendant, and marked respectively "Defendant's Exhibits Lehigh Valley R. R. Co. Trucks Nos. 1, 2, and 3," and "Diamond Truck Bolster.")

Q. 18. Please look at the models now shown you and state if they truly represent the construction of the trucks with metal bolsters now in use on the L. V. R. R., and as shown by the blue prints last referred to.

A. They do.

(Said models are offered in evidence by defendant, and marked respectively Defendant's Exhibits L. V. R. R. Trucks Nos. 1 and 2.)

149 Q. 19. How do the models correspond with the drawings?

A. Truck No. 1 corresponds with blue print No 1, with the exception that blue print No. 1 shows the brake attachments, which are not in the model.

Model No. 2 corresponds with blue prints Nos. 2 and 3.

Q. 20. Look at model now shown you and state what it represents.

A. It represents the bolster used in our present trucks.

(Said model is offered in evidence and marked "Defendant's Exhibit Metal Bolster.")

Q. 21. Did Mr. McCarty ever claim that the trucks with metal bolsters used by the Lehigh Valley R. R. Co. were an infringement of his patents before the meeting of the association at Old Point Comfort?

(Objected to as incompetent and immaterial.)

A. He did not, that I remember.

Q. 22. Did he at any time make complaint that you or Mr. Montz had appropriated his invention?

(Same objection as to last question.)

A. Not to me, that I remember.

Q. 23. How many cars having trucks with these metal bolsters were built and in use before the meeting at Old Point Comfort?

A. We had built up to that time, I should say, 500 with the straight-bar bolster, and some with the inverted bar. Just how many of the latter I cannot say.

Cross-examination by JEROME CARTY, Esq., counsel for complainants:

X Q. 24. Will you please fix the date as near as you can when you first called the attention of Mr. Montz to the requirement of a metallic bolster to supersede the wooden ones then in use, for the reasons stated in your testimony-in-chief?

A. I cannot say exactly when this was, but it was between the time that I was placed in charge of the car equipment and
150 the time that he designed the metal bolster in 1882. I was placed in charge of the car equipment in the fall of 1880.

X Q. 25. Then, am I to understand that you have no definite recollection upon the subject at all?

A. I cannot definitely fix the time.

X Q. 26. Can you say it was not in 1881?

A. No, sir. I cannot definitely.

X Q. 27. Is it not true in point of fact that you did not have any conversation with Mr. Montz on the subject of metallic bolsters until the fall of 1882, at about the time of the convention in Niagara.

A. It is not true.

X Q. 28. Can you say then that it is true that you had any conversation with him upon the subject prior to July, 1882?

A. I cannot say as to that.

X Q. 29. Then you have no recollection upon the subject prior to July, 1882. Is this correct?

A. No definite recollection as to dates.

X Q. 30. Do you remember the substance of the conversation you had with Mr. McCarty when he showed you the drawings and model at Niagara in October, 1882?

A. My recollection of that is that I told Mr. McCarty that his truck was similar to the one designed by Mr. Montz.

X Q. 31. What did he say?

A. That I do not remember.

X Q. 32. Are you positive that you mentioned the name of Mr. Montz on that occasion in that connection?

A. I might have said we. I do not state my recollection positively as to just what was said.

X Q. 33. Are you positive that you mentioned the name of Mr. Montz on that occasion in that connection?

A. I might have said we. I do not state my recollection positively as to just what was said. I cannot say positively whether I mentioned Mr. Montz's name or not.

X Q. 34. When you stated on that occasion that you were
151 constructing a similar truck, and you stated to him that it was an infringement, did he not ask you how long you had been working upon the subject, and did not you substantially reply, "I have been working upon it for about two weeks?"

(Question objected to as misleading, so far as the introduction of the words "stated to him that it was an infringement" are concerned.)

A. I have no recollection of the word infringement being used at all, and do not remember any such reply.

X Q. 35. How long prior to that interview at Niagara had you been engaged upon the subject?

(Mr. Carty calls attention to the fact that the witness before answering this question refers to a written or printed paper, and asks the purpose of such reference and what the paper is.)

(Counsel for defendant instructs the witness to answer the question from his memory.)

(Mr. Carty asks whether the witness declines to state what the paper was that he referred to.)

A. The paper I referred to is simply my recollections of the case written out.

X Q. 36. For the purposes of refreshing your memory?

A. As to certain particular points. Yes.

X Q. 37. By whom prepared?

A. By myself. That is, the facts written out by myself and afterwards copied by my typewriter.

X Q. 38. After you had read the evidence of complainants?

A. Yes, sir.

X Q. 35 repeated.

A. I cannot say how long prior to that time we had been engaged upon the subject.

X Q. 39. Was it more than six months?

A. I cannot say.

X Q. 40. When was the first car constructed under your supervision containing the bolster in controversy? And in answering this question you may qualify it by referring to any of the drawings or either of the models in evidence produced by defendant.

152

A. The first car was constructed in September, 1882, the construction of which was the same as is shown in drawing No. 1 and model No. 1.

X Q. 41. Were the original drawings of which blue prints Nos. 1, 2, and 3 — made by you?

A. No, sir; they were made by my draughtsman.

X Q. 42. Under your direction?

A. All work of this character at my shops is done under my direction. The details are frequently furnished the draughtsman by the foreman in charge of the shops.

X Q. 43. Were the originals, of which Nos. 1, 2, and 3 are copies, made on or about the date indicated by the figures 4–27–83?

A. I cannot say when the originals were made, but no doubt the tracings were made at the date shown on the prints.

X Q. 44. Were not the originals made after your interview with Mr. McCarty at Niagara, and after he had furnished you with his blue print in answer to your letter to him of Oct. 17, 1882?

A. As I said before, I cannot say when the originals were made. It is quite frequently the case that we build cars quite a long time before complete drawings are made.

X Q. 45. Can you produce the original drawings of blue prints Nos. 1, 2, and 3?

A. I can produce the drawings, I think, from which these blue prints were made, but these may not be the original drawings, as a rough drawing is sometimes made by the foreman, and from which the car is constructed.

X Q. 46. Did not Mr. McCarty, at Niagara, in October, 1882, inform you that the drawing which he showed you had been made a year and a half previous thereto?

A. I have no recollection of it.

X Q. 47. Were you aware that at the time of the interview
153 at Niagara a caveat had been filed in the Patent Office by Mr. McCarty covering his invention?

A. I do not remember that Mr. McCarty said anything of the kind.

X Q. 47 repeated.

A. Same as before.

X Q. 48. Were you aware that at the time of the meeting of the Master Car-builders' Association that Mr. McCarty had an application pending in the Patent Office for a patent on his invention, as shown in letters patent in evidence, No. 339,913? I have reference to the meeting at Old Point Comfort.

A. I am pretty certain I was not, or I would not have obtained Mr. Montz' permission for Mr. Goodwin to tender the use of his patents by the members of the association.

X Q. 49. Were you aware of it at any time after the meeting at Old Point Comfort?

A. My recollection is that the first I knew of Mr. McCarty having a patent was after the meeting of the convention in June, 1885.

Redirect examination by ANDREW MCCALLUM, Esq., counsel for defendant:

Q. 50, R. D. What is the custom as to the preparation of working drawings; are they made before or after the first new car or other structure is completed?

(Objected to as immaterial, as the witness has stated that he did not remember when the original drawings in question were made.)

(Counsel for defendant states that the question does not refer to the original drawing but to working drawings.)

A. I believe that of all the present new freight-car construction that we now have, the complete drawings were not made until after the cars were constructed. I do not now recall one exception.

Q. 51, R. D. Are the drawings in evidence, Nos. 1, 2, and 3, original or working drawings?

154 A. These I would term working drawings.

Q. 52, R. D. Can you say if they were made before or after the construction of the trucks as represented?

A. They were made after the construction of the trucks as represented.

Q. 53, R. D. Then the date that may be upon a working drawing is no evidence of the date when the truck therein represented was first constructed. Is that correct?

A. It is not any evidence of the date when the truck is constructed.

JNO. S. LENTZ.

Subscribed to before me this 27th day of December, 1889.

D. G. STUART,
Notary Public in and for the District of Columbia.

WILLIAM H. MONTZ, a witness on part of the defendant, being duly sworn, deposes as follows:

Examined by Mr. MCCALLUM:

Q. 1. State your name, age, residence, and occupation.

A. William H. Montz; age, 44; residence, Lehighton, Carbon county, Pa., and am foreman of Lehigh Valley R. R. car shops at Packerton.

Q. 2. Are you the inventor and patentee of certain improvements in car trucks described in patents No. 291,382, of January 1, 1884, and No. 322,741, of July 21, 1885?

(Mr. Carty objects to any reference to letters patent No. 322,741, of July 21, 1885, because no notice of the same has been given by any reference in the answer or otherwise.)

A. Yes, sir.

Q. 3. Will you please state when and under what circumstances you first devised the metal bolster shown in patent 291,282, giving full particulars as to what induced you to make the bolster therein shown and described?

155 A. In February, 1882, I constructed a flat-bottom car with an iron transom in the body. The idea struck me then that the same transom could be used in a truck.

After giving the matter considerable thought, I conceived the idea of making a cap, as shown in the drawings, to hold the transom in position.

In July I first explained it to the assistant foreman and draftsman.

Some time afterwards a truck of this kind was constructed and put under a car, September 14, I think.

Q. 4. Was that bolster or transom of the same construction as shown in your patent, No. 291,282?

A. It was, with the exception of the truss rods.

Q. 5. Was it of the same construction as the bolster shown in model truck Exhibit No. 1?

A. It was, with the exception of the centre columns, which were shaped a little different, but the principal was the same.

Q. 6. How does it compare with drawing "Defendant's Exhibit No. 1"?

A. It was like the drawing or blue print.

Q. 7. Was the iron transom you put on the flat-bottom car new with you?

A. It was not new.

Q. 8. Where had you seen it before?

A. I had seen it in other companies' cars.

Q. 9. Please look at the book now shown you, entitled the "Car-builders' Dictionary," published in the year 1881, particularly at figures 233 and 235 on page 342, and 237 on page 343, and state if these figures represent the iron bolsters which you had seen on the cars of other companies.

(Objected to. First, because the edition mentioned is not referred to in the answer; second, that it is not competent evidence as referred to.)

A. Yes, sir.

Q. 10. Please look at the model now shown you, and state what it is.

156 (Objected to because no ground has been laid specially to show that the witness has any knowledge to testify upon the subject as an expert.)

A. An iron transom for cars.

Q. 11. Is that the kind of transom you speak of as old and having seen on cars of other companies prior to the year 1882?

A. Yes, sir.

(The model referred to is offered in evidence, and marked "Defendant's Exhibit Old Metal Transom.")

(Objected to as immaterial.)

Q. 12. As I understand you it was a metal transom of this construction which gave you your idea of the truck bolster which you constructed and put into use under a car September 14, 1882. Is this correct?

(Objected to as leading.)

A. Yes, sir.

Q. 13. What did you do to it to fit it for the truck?

A. I reversed the transom or turned it upside down and applied a different end cap.

Q. 14. Is that all you did?

A. The wooden beams which are in the model are not in the truck, and the side bearings are differently shaped; also the centre plate.

Q. 15. Did you substitute anything for the wooden blocks?

A. Yes, sir; cast columns or posts.

Q. 16. Look at the casting now shown you, and state if that is one of the cap pieces you put on the bars which form the bolsters.

A. Yes, sir.

Q. 17. Is it of the same construction as shown in your patent No. 291,382, particularly by figure 5 of the drawings?

A. It is, with the exception that the casting or cap was made for

a nine-inch transom, while the cut, Fig. 5 of the patent, was for a seven-inch transom.

(The casting referred to is offered in evidence, and marked "Defendant's Exhibit Montz Cap Piece.")

157 (Objected to as immaterial.)

(Defendant also offers in evidence the book entitled the "Car-builders' Dictionary," referred to by the witness.)

(Objected to as incompetent and irrelevant.)

Q. 18. After you conceived the idea of constructing the cap piece, and applying it to the ends of the metal bolster, what, if anything, did you do to put it into shape, and apply it to the car truck? Give particulars of what you did or caused others to do in the premises.

A. I had a sketch made, or a drawing, and a pattern made from the same, and had some castings made from the pattern.

Q. 19. Have you any data to show when these castings were made?

A. Yes, sir.

Q. 20. State what it is.

A. Witness produces a statement from the foundry to the Packerton shops, dated Sept. 6, 1882.

Q. 21. What does that statement show?

A. It shows the number of pieces of the different castings, and the weight of same as being shipped to the Packerton shops.

Q. 22. Are all those castings enumerated in this statement the same as your cap piece, or how do you identify these particular castings from the others?

A. They are identified by the letter and the number.

Q. 23. Which of them represents your cap piece?

A. B 55.

Q. 24. Have you any other means of identification, or where does it appear that B 55 refers to these particular castings?

A. The letter and the number appear on the casting.

(Witness also produces a similar foundry statement dated September 13, 1882, and one dated September 14, 1882, and said statements are offered in evidence and marked "Defendant's Exhibits Foundry Statements.")

(Objected to as incompetent.)

Adjourned until 9 o'clock a. m., December 28, 1889.

158 Met pursuant to adjournment.
Present as before.

Direct examination of WILLIAM H. MONTZ continued:

Q. 25. Does "Defendant's Exhibit Montz Cap Piece" bear the same foundry mark as the similar casting made in the year 1882?

A. No, sir.

Q. 26. Can you produce one of the original castings?

A. Yes, sir; if the truck is still in existence.

(Counsel for defendant gives notice that he will produce and offer in evidence one of the original castings referred to.)

(Mr. Carty reserves the right of cross-examination when the same shall be so offered.)

Q. 27. You stated that you made sketches and drawings of this bolster before the castings were made. Have you preserved any of these sketches or original drawings? If so, produce them.

A. The sketches were made subject to my orders. I have no sketch of the cap, but have a sketch of the post or column, which bears a later date.

(Witness produces sketch, which is offered in evidence and marked "Defendant's Exhibit Montz Original Sketch.")

Q. 28. What is the date upon that sketch?

A. August 31, 1882.

Q. 29. You say it represents the post or column. What post or column do you mean, and where is it located in the bolster?

A. It is between the tension and compression bar of the transom near the centre.

Q. 30. You mean the posts that connect the upper and lower bars of the transom towards the centre, the same as shown by the blue print, Exhibit No. 1?

A. Yes, sir.

Q. 31. You use the term "transom." Is that the same meaning as the term "bolster?"

A. Yes, sir; transom and bolster mean the same thing.

(Objected to.)

159 Q. 32. I notice that the sketch appears to be drawn to a scale. Does it represent a full-sized column?

A. Yes, sir.

Q. 33. Have you ever used these columns for any other purpose than in the construction of these metal bolsters?

A. Not to my recollection.

Q. 34. Had you anything to do with the making of these working drawings, Exhibits 1, 2, and 3?

A. Yes, sir.

Q. 35. Were they made before or after the use of the trucks first made and used. Give particulars as to how and when they were made?

A. They were made after the trucks were built.

They were made after the transom seemed to be a success. I do not know when, except by the date they bear, April 27, 1883.

Q. 36. What is the object of making these working drawings?

A. For future reference, and to have the truck approved by the general superintendent as a standard truck.

Q. 37. Did the truck shown by drawing No. 1 become standard for any length of time; and, if so, how many cars were built of that pattern?

A. It did. I am not able to state how many cars were built.

There might have been somewhere in the neighborhood of 500 cars, more or less.

Q. 38. During what years were these 500 cars built?

A. In 1883 and 1884.

Q. 39. Are they still being built? If not, why not?

A. They are not built any more with that style of transom, because they did not prove to be strong enough.

Q. 40. What truck are you now making and using, or what took the place of the truck shown by drawing No. 1?

A. The truck shown in blue prints Nos. 2 and 3.

Q. 41. Do you know who designed that truck?

A. Yes, sir; I designed it.

160 Q. 42. Is it the same truck for which you obtained letters patent No. 322,741, of July 21, 1885?

(Objected to as incompetent, as no notice or reference to this patent is contained in the answer.)

A. Yes, sir.

Q. 43. Look at model Exhibit No. 2 and state if that is a fair representation of the truck shown by the drawings Nos. 2 and 3 and your patent No. 322,741.

A. Yes, sir; it is.

Q. 44. Do you know Mr. H. C. McCarty, one of the complainants in this suit?

A. I do.

Q. 45. State when and under what circumstances you first became acquainted with him.

A. I cannot give the date, but he used to come to our shops to make joint assessments on cars that were damaged.

Q. 46. Was that prior to February, 1882?

A. I think so.

Q. 47. How frequently would he make these visits to your shops?

A. Probably once every two months.

Q. 48. Were these visits continuous for any length of time—I mean years?

A. Yes, sir; they were.

Q. 49. Until how lately?

A. I do not remember just when he was there last, but I think it was in 1888.

Q. 50. Did he have any opportunity of seeing what was going on in the shops in the way of constructing cars or trucks?

A. Yes, sir; he did. I showed him the trucks when I was constructing them.

Q. 51. Did he at any time make claim while examining these trucks that you had appropriated any invention of his?

(Objected to as incompetent and immaterial.)

A. He did not.

161 Q. 52. Do you know that he did subsequently obtain a patent for a similar truck bolster?

A. Yes, sir.

Q. 53. When did you first learn that he made any claim to have invented it?

A. I cannot give any date as to the time when I first learned that he had a patent.

I do not know the date he claimed to have invented it.

Q. 54. Do you not know that he exhibited a model and drawing at the car-builders' convention at Niagara Falls, in October, 1882?

A. All I know about that is what Mr. Lentz told me, that he had a model or drawing at that convention.

Q. 55. What, if anything, did you do when you learned of this fact from Mr. Lentz?

A. I asked Mr. Lentz to get a drawing of the same.

Q. 56. For what purpose did you desire to obtain this drawing?

A. To compare it with the truck that I had constructed.

Q. 57. Look at blue print "Defendant's Exhibit McCarty Drawing." and state if that is the drawing you received from Mr. Lentz as coming from Mr. McCarty?

A. Yes, sir; it is.

Q. 58. How does it compare with the truck you had constructed Sept. 14, 1882?

A. The transom or bolster is the same in principle.

The guide-plate of his transom is different from my cap.

Also the truss rods were on his bolster, which I had not on mine.

Q. 59. Did you ever use the truss rods in connection with your bolster?

A. I think I put them on one car for an experiment.

Q. 60. When was that, do you know?

A. I cannot give the exact date. It was either in 1882 or 1883.

Q. 61. You never used any bolsters with the truss rods, except on the one car you have mentioned. Is that correct?

162 A. No, sir; I did not.

Q. 62. Was there not a proceeding in interference in the Patent Office between your patent No. 291,382 and an application for a patent made by Mr. McCarty?

A. Not to my recollection.

Q. 63. Do you not remember receiving notice from the Patent Office that Mr. McCarty or some one claimed to have made the same invention or part of the invention described in your patent 291,382, or some communication from your attorneys, Prindle and Russell, respecting it?

A. Yes, sir.

(Question and answer both objected to because mainly suggestive and leading.)

(Witness here explains that the time referred to in Q. 62 was the time when he received the patent papers.)

Q. 64. You do not seem to have understood Q. 62.

Please hear the notary read the same again, and answer it.

A. Yes, sir; there was, after I had received my patent papers.

Q. 65. You had received your patent before the interference was declared. Is that what you mean?

A. Yes, sir.

Q. 66. What did you do respecting that interference?

A. I think I came to Washington and made a statement, of which I have a copy.

Q. 67. Were you acting under the advice of your attorneys, Prindle & Russell?

(Objected to as immaterial.)

A. I was.

Q. 68. Did you proceed any further in the matter?

A. Not to my recollection.

Q. 69. Why did you not?

(Objected to as immaterial.)

A. I had no orders from my superior officers of the road.

Q. 70. Do you remember what the subject of the interference was, or the particular feature or features of the bolster which were included in the claim?

163 A. All I remember about it is that his claims were the same that mine were, or very near the same.

Q. 71. Did they include the truss rods?

(Objected to as leading.)

A. Yes, sir.

Q. 72. Please look at your patent and the claims thereof, and state if you remember which of them were in interference.

A. The truss rods, the bars A and B, connected together at their ends and having their centres united and held in relative vertical position by means of the posts C C and bolts D. As to the cap, I do not know whether he had any claims on it.

Q. 73. I believe you stated that in the construction of the bolsters used, by the Lehigh Valley R. R. Co., the truss rods were not used, except experimentally on one car. Is that correct?

A. Yes, sir; it is.

Q. 74. What experience have you had as a practical mechanic? Please give particulars.

A. I have been a house carpenter, and afterwards, in 1867, went to work for Lehigh Valley R. R. Co. as carpenter in the car shops.

In the latter part of 1868 I was promoted to be assistant foreman on car repairs.

In 1881, I think it was, I was promoted to the position of foreman.

Q. 75. Have you any experience with letters patent and the drawings and specifications of same, such as would enable you to understand the particular improvements or inventions covered by the claims of same?

A. Have you reference to my claim?

Q. 76. The question is generally, or it may be limited to the particular art of car-building with which you are familiar.

A. Yes, sir. I have a knowledge.

Q. 77. Read the first claim of the McCarty patent No.
164 339,913, and compare the same with the model Exhibits Nos. 1 and 2, and blue prints Nos. 1, 2, and 3, and state if you find the subject of that claim embodied in the construction of truck bolsters shown by said models and drawings?

A. As an improvement in car trucks the hereinbefore-described bolster composed of bars connected together at their ends, and having their centres united and held in relative vertical positions by means of posts and bolts, in combination with the truss rods, substantially as and for the purpose set forth.

(Mr. McCallum repeats, read the question to the witness.)

A. The bars referred to in the claim are these here, the top and bottom bar as shown in the models and prints.

The 1st claim, McCarty's claim, is embodied in the bolster shown in the models and prints, with the exception of the truss rods.

Q. 78. Referring to the third claim of said patent No. 339,913, do you find in the models or drawings referred to, that the ends of the lower bar have turned-up flanges, and that the ends of the upper bar bear against said flanges?

A. I do not.

Q. 79. Referring to the 4th claim which reads, "The upper bolster, composed of the bent bar F, straight bar G, and interposed columns M, in combination with the plates P, secured beneath the bars F G, at their ends, and notched or grooved on their sides at *a*, to receive the columns B, of the side irons, substantially as and for the purpose set forth," do you find in the models or drawings referred to, the interposed columns M, between the upper and lower bars?

A. I have such a column in model No. 2. No. 1 has a wedge.

Q. 80. Do you find in said models or drawings the plates P, secured beneath the bars F G, at their ends?

A. No, sir; I do not.

Q. 81. Are the central supporting columns H, of the patent included in this 4th claim?

165 A. No, sir; they are not.

Q. 82. In your opinion, would a bolster of this construction be of any use without these central supporting columns?

A. No, sir; it would not.

Q. 83. Referring now to the McCarty patent No. 314,459, and the 2d claim thereof, which reads: "In a car truck, a bolster consisting of upper and lower bars and supporting angle irons between the bars, said angle irons being parallel to said upper and lower bars, and bolted thereto through their flanges, substantially as and for the purpose set forth," do you find in said defendant's models and drawings supporting angle irons between the bars of the construction and arrangement described?

(Mr. Carty objects to this line of examination where the entire answer is embodied in the question of counsel as leading, inasmuch as the witness is produced as an expert.)

A. I do not.

Cross-examination by JEROME CARTY., Esq., counsel for complainants:

X Q. 84. Do you consider yourself a patent expert upon mechanical devices in general?

A. To some extent.

X Q. 85. To what extent?

A. Only to such devices as I am familiar with.

X Q. 86. What devices are you familiar with?

A. These car trucks.

X Q. 87. Anything else?

A. Car-couplers.

X Q. 88. Are you a graduate of any technical school or college?

A. I am not.

X Q. 89. Can you explain the meaning and use of the term "mechanical equivalents" as distinguished from the term "aggregation of old parts"?

A. I cannot.

166 X Q. 90. Have you personally examined the state of the art in the United States Patent Office upon the subject of car trucks in general?

A. I have looked over the models, some of them.

X Q. 91. When, in your opinion, was a car first put in operation substantially embodying a metallic truck and bolster which is the subject of this controversy, say as shown in blue prints 1, 2, and 3, and in defendant's models, car trucks Nos. 1 and 2?

A. In September, 1882.

X Q. 92. Where?

A. At Packerton, Carbon Co., Pa.

X Q. 93. Is this the car with the truck and bolster which you have referred to in your testimony as experimental, and afterwards abandoned?

A. It is not.

X Q. 94. What has become of the car with the truck and bolster completed in 1882?

A. I think it is still running.

X Q. 95. Have you any definite knowledge upon the subject?

A. I have not.

X Q. 96. Who first suggested to you the idea of a metallic truck and bolster?

A. Nobody.

X Q. 97. Are you sure of this?

A. Not to my recollection.

X Q. 98. Who gave the instructions in detail which resulted in the drawings of which blue prints Nos. 1, 2, and 3 were taken?

A. I did.

X Q. 99. To whom?

A. To the assistant foreman and pattern-maker or draftsman.

X Q. 100. When?

A. I think it was some time in July, 1882.

167 X Q. 101. Were the drawings then prepared, of which the blue prints are copies?

A. No, sir.

X Q. 102. When were the drawings prepared?

A. Some time afterwards.

X Q. 103. How long afterwards?

A. I cannot give date.

X Q. 104. Was it in 1882?

A. I think so.

X Q. 105. If Mr. Lentz has testified that the drawings of which blue prints 1, 2, and 3 are copies, were made under his direction and supervision, is he correct or not?

A. He is correct.

X Q. 106. Then, am I to understand that they were made under your joint direction to the draftsman?

A. Yes, sir.

X Q. 107. Is it not a fact that the drawings were made in April, 1883, the date contained thereon, figures 4, 27, '83?

A. According to the print it shows they were made at that date; yes, sir.

X Q. 108. This was six months after the convention at Niagara, was it not?

A. I think so.

X Q. 109. And about six months after Mr. Lentz showed you the blue print marked "Defendant's Exhibit McCarty Drawing"?

A. I do not know as to the date when this print of Mr. McCarty's was first shown to me.

X Q. 110. Was it not shortly after the Niagara convention in October, 1882?

A. It might have been a month or two after the convention.

X Q. 111. You asked Mr. Lentz to write for it, did you not?

A. I did.

X Q. 112. Does the blue print "Defendant's Exhibit Mc-
168 Carty Drawing" show substantially what you claimed as your invention at that time, referring to a month after the Niagara convention?

A. Not substantially the same.

X Q. 113. Wherein is it not substantially the same; explain particularly?

A. The guide-plates A, and the manner of applying the truss rods, and the straight bar with turned-up ends, and the side frame.

X Q. 114. I now read to you claim No. 1, of McCarty patent, 339,913, as follows:

"As an improvement in car trucks, the hereinbefore-described bolster composed of bars connected at their ends, and having their centres united and held in relative vertical positions by means of posts and bolts, in combination with the truss rods, substantially as and for the purpose set forth," and I ask you whether this claim is not embodied in "Defendant's Exhibit McCarty Drawing" above referred to.

A. I think it is.

X Q. 115. Please look at and read claim 2 of your patent No. 291,382, of January 1, 1884, and tell me whether that claim is not also embodied in "Defendant's Exhibit McCarty Drawing."

A. I think it is.

X Q. 116. Please examine claim No. 1 of the McCarty patent, No. 339,913, and claim No. 2 of your (Montz) patent, No. 291,382, and tell me whether (with the exception of the letters A, B, C, D, and N, used as references to the drawings) the language of these two claims is not exactly identical.

A. I think they are the same.

X Q. 117. At what date do you consider that the invention claimed by you as shown in letters patent (Montz) No. 291,382, was practically complete?

A. I cannot give the date.

X Q. 118. Have you not heretofore given the date?

A. I do not remember.

169 X Q. 119. Do you consider, in your opinion, that it was complete on September 14, 1882, when the car that you said was built?

A. Yes, sir.

X Q. 120. Then why did you delay for an entire year in making application for a patent?

A. Because I wanted to see the bolster in practice for some time to see what the results would be.

X Q. 121. All that you did in reference to the invention claimed by you as shown in the drawings and models produced was subsequent to July, 1882, was it not?

A. I think so.

X Q. 122. Did not Mr. Lentz, upon his return from the Niagara convention in October, 1882, inform you that Mr. McCarty showed him a model and drawing substantially similar to your invention?

A. He did. He told me that he saw a model similar to my truck.

X Q. 123. Will you now undertake to say positively and of your own knowledge that, prior to the time above referred to, Mr. McCarty had seen anything about your shops like the invention in question? I mean prior to October, 1882.

A. I could not say whether he did or not.

X Q. 124. Then you did not mean to have me understand by your testimony, wherein you say that Mr. McCarty was in the habit of going to the Packerton shops prior to February, 1882, that he had seen anything like the invention in question at that time or at any time prior thereto, do you?

A. I could not say whether he did or not. I was not so well acquainted with him at that time, and cannot say whether he saw it or not.

X Q. 125. How could he have seen a thing that you admit was not in existence in February, 1882?

A. I misapprehended your question 124, and thought it referred to September, 1882.

170 (Question 124 repeated.)
A. No, sir.

Adjourned, subject to agreement of counsel.

D. G. STUART,
Notary Public.

Dec. 28, '89.

Jerome Carty, Esq., solicitor for complainants, having notified counsel for defendant (January 31, 1890), that he had no further questions to put to this witness on cross-examination, the deposition was this day signed by said witness.

WILLIAM H. MONTZ.

Subscribed before me this 15th day of February, 1890.

D. G. STUART,
[SEAL.] *Notary Public.*

UNITED STATES OF AMERICA,
District of Columbia, City and County of Washington, } ss:

I, D. G. Stuart, a notary public in and for said District, do hereby certify that the foregoing are the proofs for final hearing taken before me in the cause in the caption named, on the part of the defendant, under and in pursuance to the 67th rule of the Supreme Court of the United States, in equity, as amended.

Witness my hand and official seal, at Washington, D. C., this 17th day of February, 1890.

[SEAL.] D. G. STUART,
Notary Public.

171 United States Circuit Court, Eastern District of Pennsylvania.

HARRY C. McCARTY and JOHN F. BICKEL
v.
LEHIGH VALLEY RAILROAD COMPANY. } In Equity.

Testimony taken on part of the defendant, in pursuance of notice herewith, taken at the office of Mr. L. K. Gould, notary public, Bridgeport, Conn., February 14, 1890.

Present: Andrew McCallum, Esq., counsel for defendant; Jerome Carty, Esq., counsel for complainants.

GEO. W. BEACH, a witness on the part of the defendant, being duly sworn, deposes as follows:

Examined by Mr. McCALLUM:

Q. 1. State your name, age, residence and occupation.

A. George W. Beach; Waterbury, Connecticut; occupation, superintendent of the Naugatuck division of the New York, New Haven and Hartford railroad.

Q. 2. How long have you been in the employment of said railroad company?

A. As superintendent of the Naugatuck railroad and of the Naugatuck division, since October, 1868. Have been in employ of the Naugatuck railroad since the first day of January, 1855.

Q. 3. Are you familiar with the different kinds of trucks in use on freight cars of the road?

A. I am.

Q. 4. Are there any such trucks made with metal bolsters?

A. We have quite a large number of iron trucks with an iron centre.

Q. 5. How long have these trucks been in use?

A. During the whole period of my superintendency.

Q. 6. Please look at the blue-print drawing now shown to you, and state if said drawing truly represents the construction of these iron trucks.

172 A. The blue print represents quite a large number of trucks in use by the Naugatuck R. R. and the Naugatuck division of the N. Y., N. H. & H. R. R.

(Statement.—The blue print referred to is offered in evidence, and marked "Defendant's Exhibit Naugatuck Railroad Truck No. 1.")

Q. 7. I notice on said drawing the name of Ray French & Co., Humphreysville, Conn. Did that firm manufacture the trucks?

(Objected to, unless the witness knows of his own knowledge.)

A. I didn't see the trucks built.

Q. 8. Don't you know that they were built by them? State all you know about it.

A. I know of no iron trucks having been made for the Naugatuck R. R. which were not built under their own supervision, except such as were built by Dwights, French & Co. or the American Car Company, of Humphreysville or Seymour.

Q. 9. Do you know all of the firm of Ray French & Co.?

A. Raymond French & Company? I do not know of such a firm. Raymond French manufactured for himself. Dwights, French & Company were also manufacturers; afterwards merged into the American Car Company of Seymour.

Q. 10. Is that company still in existence?

A. It is not.

Q. 11. How long ago did they stop work?

A. I cannot give the definite date.

Q. 12. State to the best of your recollection.

A. Should say at least thirty years.

Q. 13. Are there any of the trucks manufactured by them still in use on the road?

A. I am of the impression that there are.

Q. 14. Did you see one today?

A. I saw one of the trucks of the same form and kind, but
173 cannot say definitely whether this truck was built under the supervision of the Naugatuck R. R., or was built for them by the American Car Company, as we had no special marks indicating by whom they were built.

Q. 15. Please look at the photographs now shown to you and state what they were taken from, what they represent or what they are taken from.

A. They represent the truck taken from under one of the cars formerly owned by the Naugatuck R. R.

(Statement.—The photographs referred to are offered in evidence and marked "Defendant's Exhibit Naugatuck Iron Truck Nos. 2 and 3.")

Q. 16. How long, to your certain knowledge, have trucks of the construction shown in these photographs exhibited, been in use?

A. During the whole period of my superintendency, which commenced in October, 1868.

Q. 16. The blue-print drawing shows the same construction as the photograph, does it?

A. I should say that it was a correct representation.

Q. 17. Look at the model now shown you, "Defendant's Exhibit Lehigh Valley Railroad Company R. R. Truck No. 1," and state if the bolster shown in said truck is substantially the same as the construction shown by the blue print and photographs, and in use on the trucks referred to.

A. The term "bolster" was not by us used, but known as the "truck centre," which was stationary, the motion being made from the journal box instead of at the truck centre. The truck centre in form is similar in construction to that in use by the Naugatuck road, except that this (meaning exhibit) rests in a cast-iron socket casting which was not used by us, instead of which the truss part of the centre, the ends of which rested against the lower section or bar which was turned up as shown in blue print.

Q. 18. Is that the same construction as shown by the drawing of "Patent No. 339,913, H. C. McCarty, April 13, 1886," Complainants' Exhibit No. 3?

174 (Objected to as indefinite.)

A. With the exception that the drawing represents an iron plate in addition to the truss; also represents truss rods, which were not used by the Naugatuck Company. The iron plates are those marked "P," Fig 2; the truss rods marked "K."

Q. 19. What kind of a body bolt is used in connection with these iron trucks?

A. Wrought-iron truss.

Q. 20. Is it similar in construction to model, "Defendant's Exhibit Old Metal Transom"?

A. It is, in the main, except that no castings are used on the ends of the bolster. The sills of our cars rested upon the top of the bolster.

Q. 21. Is it like drawings, figures 235 and 237 of the Car-builders' Dictionary, now shown you?

A. It is like it (Fig. 235 and Fig. 237). The ends of the truss of the Naugatuck bolster rested against a lip of the upper plate, and

cannot tell from this drawing or sketch whether this so represents it or not.

Q. 22. Is it the same as the truck centre, only inverted?

A. Relatively so, except that we gave more pitch to the truck centre than to the bolster.

Cross-examination by Mr. CARTY:

X Q. 23. Do you know of a metallic truck, similar in construction as that shown in the blue print and photographs, to have been in public use on any other road than those you have named prior to August, 1881?

A. I do.

X Q. 24. Where?

A. The Housatonic.

X Q. 25. Any other road?

A. I do not call in mind this form of centre.

X Q. 26. Are the several roads named by you considered extensive railroads in the use of freight cars as compared with other roads of the United States?

175 A. I can't answer that question.

X Q. 27. How many freight cars are in use by the railroads with which you are connected containing the metallic truck, as shown in the blue prints and photographs produced?

A. I do not know the whole number. The records are now out of my possession.

X Q. 28. Can you not approximate the number as compared with the entire number of freight cars in use, if only fractionally?

A. I cannot.

X Q. 29. Is it more than one-half?

A. I can't answer the question, for I have no records to show.

X Q. 30. Has not, in point of fact, so far as your knowledge extends, the truck, as shown in the blue print and photographs, been abandoned by the roads with which you are connected?

A. No; for they are still in service.

X Q. 31. I mean so far as any new and recently constructed cars are concerned.

A. We have not built any new cars with this device probably within the last five years; could not spend the time and keep up our repairs; but purchased our cars from the manufacturers.

X Q. 32. What form of truck are the cars purchased by your companies within the last five years equipped with?

A. The last purchase I made, I think, was some thirty-five cars with what is known as the "Diamond" truck.

CONSTANT A. WOLFF, being duly sworn, deposes and says that he is about sixty-three years of age; a resident of Bridgeport; a blacksmith by trade; formerly lived at Waterbury, employed by the Farrell Foundry Company. That he knows the kind of car trucks shown by Defendant's "Exhibits Naugatuck R. R.

176 Iron Truck," and helped to construct the same in 1865 and 1866, cannot tell exactly; worked on them off and on, about

five years building them; worked on repairs of them afterward, for about twenty years, off and on.

Cross-examination by Mr. CARTY:

X Q. 1. Have you helped to build any of the trucks shown in the photograph within the last ten years?
A. To build new ones?
Q. Yes.
A. Oh, no.

Re-examination by Mr. McCALLUM:

Q. 2. Are you now in the employ of the Naugatuck railroad?
A. No, sir.
Q. 3. How long since you left?
A. It will be two years next month.

(It is agreed between the counsel that John O'Brien, if called, would testify that he was a helper to the last witness, Constant A. Wolff, and helped to construct the car trucks shown by the "Blue Print and Photograph Exhibits, Naugatuck Iron Truck," for thirteen years, from 1867, but that he is now employed by the N. Y., N. H. & H. R. R. Company as a lampman; and has not been engaged in the construction of any new trucks like the exhibits for the last ten years.)
(It is further agreed that the signatures of the last two witnesses be waived.)

CARLOS FRENCH, being duly sworn, deposes and says he is a resident of Seymour, Connecticut.

Q. 1. Were you connected with the firm of Dwights, French & Company?
A. No, sir; my father was.
Q. 2. Were you engaged in building railroad cars?
A. I was a boy at the time that the firm of Dwights, French & Co. existed. That company merged into the American Car Company. I was employed by that company.
177 Q. 3. Did you ever build cars with an iron truck?
A. Yes.
Q. 4. Please look at the photographs I show you, and state if you ever made trucks substantially like them.
A. Yes, sir.
Q. 5. State when these trucks were made, and for whom.
A. Well, I cannot tell exactly when they were made; I think from 1852 to 1861.
Q. 6. Who for?
A. I think some were made for the Naugatuck railroad, and for the Mobile & Ohio, I think I am not positive about the Mobile & Ohio. They built cars for so many roads, and the trucks were not the same.

Q. 7. When did the American Car Company cease to manufacture?

A. I think it was 1854.

Q. 8. Have you seen any of these trucks recently?

A. Yes, sir; I saw one today on the docks.

Q. 9. One that you built?

A. I think we built it.

Cross-examination by Mr. CARTY:

X Q. 10. When, according to your own personal knowledge, were the last cars built containing the trucks shown in the photographs handed to you?

A. Well, we have built no trucks since 1860.

Signature is waived by agreement of counsel.

HENRY D. BEACH, being duly sworn, deposes and says:

Q. 1. Please state your name, age, residence and occupation.

A. Thirty-one years of age. Reside in Bridgeport. Occupation as signal engineer of N. Y., N. H. & H. R. R.

Q. 2. You are a son of Mr. G. W. Beach, who testified in this case?

178 A. I am.

Q. 3. Please look at the blue print, "Defendant's Exhibit Naugatuck Railway Iron Truck No. 1" and state what, if anything, you know about it?

A. I know that there is such a truck in existence today. The drawing was made under my direction as superintendent of rolling stock of the Naugatuck Railroad Company.

Q. 4. What was the drawing made from?

A. The request was made to me by Mr. G. W. Beach that I have a drawing made of the iron truck of this particular description as shown in the print; trucks which had been in use for a number of years.

Q. 5. The drawing was made from a truck in use?

A. Yes, sir.

Q. 6. Who put the statement on the bottom that it was made by French & Company?

A. I think my draughtsman did it.

Q. 7. Is that the same French as the Dwights, French & Co., and how came the statement to be made?

A. Ray. French is an abbreviation for Raymond French, and I suppose that he was the French of the Dwights, French & Co. It was before my time, and I only know from what I have been told.

Q. 8. Please look at "Defendant's Exhibit Naugatuck R. R. Iron Truck 2 and 3 Photographs," and state what you know about the photographs. How were they made?

A. They were taken by my direction by Photographer Betts, of this city, and I assisted him in taking the same, and showed him what I wished. The photographs were taken of truck of car 987 of

the N. Y., N. H. & H. R. R. Co., which was formerly known as car No. 6, of the Naugatuck Railroad Company. The Naugatuck cars were renumbered and relettered by the N. Y., N. H. & H. R. R. Co., when they leased the road, or shortly afterward.

Q. 9. Can you say how many cars of that construction are now in use on the N. Y., N. H. & H. R. R.?

179 A. At least forty. Probably more.

Q. 10. Of your own personal knowledge, how long have these cars been in use?

A. Since 1884, the first of January, when they came directly under my own supervision. I presume they have been in use before.

(Answer objected to as incompetent and immaterial.)

Q. 11. Is the car shown near the top of photograph No. 2 the car from which the trucks shown in the foreground were taken?

A. It is.

Q. 12. What kind of body bolsters are on that car?

A. An iron body bolster.

Q. 13. Are they of the same construction as the truck bolster or centre shown by the photograph?

A. Of the same general dimensions, the difference being in the width of the truss; the top plate having lips turned over at the end, which supported the arched part of the truss, kept rigid by bolts on intermediate columns. The width or height of the bolster is materially less than the truck bolster.

Q. 14. How are the ends of the two plates united—to the truck bolster?

A. By two bolts which pass through the bolster.

Q. 15. Are the ends of the lower plate turned up against the ends of the upper plate, as in the blue print?

A. The ends of the lower plate are turned up at right angles and form a shoulder, which helps to support the upper plate from spreading; thus helping to make a rigid truss.

Q. 16. Is that the same construction as shown by the McCarty patent, "Complainants' Exhibit No. 3"?

A. The lip turned up at Q is apparently the same, I should judge from the drawing of figure 2.

Q. 17. How are the two plates connected toward the centre in the truck bolsters as used?

A. They were connected by bolts through the hollow columns.

180 Q. 18. The same as shown by the patent referred to?

A. As near as I am able to judge by this figure, No. 2 of the drawing.

Q. 19. How does the construction of the truck bolster, shown by the photograph and blue print, Defendant's "Exhibit Naugatuck R. R. Iron Truck- Nos. 1, 2, and 3," compare with the bolster shown by the Defendant's "Exhibit L. V. R. R. Truck No. 1," now shown to you?

A. In the exhibit photographs and blue print the bolster is rigidly

connected with the entire truss frame, the spring motion being located directly over the truck housings which operate through guide-bars which run from the top to the bottom of the frame, through cored holes in the housings. In the L. V. R. R. truck, in "Defendant's Exhibit Truck No. 1," the bolster is materially the same, differing only from the other in being free to operate directly upon springs kept in position by guide-bars. The truss is kept in position by the guide-bars, not the springs.

Q. 20. If I understand you aright, the springs which allow of vertical movement in the Naugatuck truck are located over the wheel axles, while in the "Model Exhibit L. V. R. R. Truck No. 1" they are located immediately below the ends of the bolster. Is that correct?

A. In the Naugatuck truck the springs are on top of the housings, over the center of the journal bearings, and in the "L. V. R. R. truck No. 1," under the ends of bolsters.

Q. 21. What kind of a truck would you call the model exhibit?

(Objected to as immaterial.)

A. The form is known as the "Diamond" truck.

Q. 22. Is the difference in the location of the springs you speak of due to the construction of the trucks?

A. Yes, sir.

Q. 23. Are both kinds of trucks used on the N. Y., N. H. & H. R. R.?

A. Yes, sir; the Diamond truck is used, also the trucks as shown in the photograph.

181 Q. 24. How long have you used the Diamond truck?

A. Well, I know positively that they have been used since the date of my appointment as superintendent of rolling stock, January 1, 1884.

Q. 25. Were they in use when you took charge?

A. Yes, sir.

Q. 26. Do the bolsters have guide-plates for columns of the side frame?

A. Yes, sir; they do.

Q. 27. Similar guide-plates are used in connection with housings of the Naugatuck trucks, are they?

A. The housings are guided by bars which pass through the truck and perform the same functions as the guide-bars in the centre of the frame of "L. V. R. R. truck No. 1."

Q. 28. Compare the trucks shown by the model exhibit and the photographs and blue print exhibits with the cut shown by the "McCarty patent No. 339,913, Complainants' Exhibit No. 3," and state what, if any, difference there is in the construction of the bolster.

A. The construction is materially the same, with the exception that the truss-rod K, Fig. 2, of the McCarty patent, is introduced to strengthen the truss. The trucks in the blue print and photographs, and the "L. V. R. R. truck No. 1," not having this truss rod.

Cross-examination by Mr. CARTY:

X Q. 29. Am I to understand that, after careful examination of the blue print and photographs of the Naugatuck truck and the model of the "Defendant's Exhibit L. V. R. R. Truck No. 1," that, in your opinion, the construction and operation of these trucks and bolsters are substantially the same?

A. The photographs and print and the model No. 1, as to their general description and name, are different, but the construction of the truss is materially the same. The same results are obtained.

182 X Q. 30. Is there not a difference, an actual difference, in the operation of the two bolsters or "trusses," as you choose to call them, between the "L. V. R. R. truck No. 1" and the "Naugatuck truck," as shown in the blue print and photographs?

A. An actual difference in the operation? There is.

X Q. 31. Does not this actual difference in operation necessitate an actual difference in the construction of the bolster, or truss, between the "L. V. R. R. truck No. 1" and the Naugatuck truck, as shown?

A. The only difference is that the guide-pieces are added to the truck bolster in the "L. V. R. R. truck No. 1," to keep it in position—the truss or bolster in the Naugatuck being made rigid.

X Q. 32. Has your company, since you have had charge of the rolling stock, ordered any new cars with the Naugatuck truck thereon?

A. Ordered or built? We have not ordered or bought any cars which have any truck or trucks similar to the design shown in photographs and blue prints.

X Q. 33. When an old car containing a Naugatuck truck has met with an accident in which the truck or trucks are substantially damaged beyond repair, with what truck or trucks is the car replaced? At the present time or within the last five years?

(Objected to as immaterial, by Mr. McCallum.)

A. At the present time I am not in charge of the rolling stock and cannot say, but the time within the last five years mentioned, when I had charge of the rolling stock of the Naugatuck railroad, I do not know of any truck of the description of the truck in the photograph, known as the Naugatuck R. R. truck, that was so far destroyed as to necessitate the replacing of an entirely new truck.

X Q. 34. Supposing it to have been entirely destroyed, what would have been your action as superintendent of the rolling stock in replacing the car with a new truck?

183 (Objected to as immaterial.)

A. We had several parts of the same truck, or rather the same design of truck on hand, and I should probably have replaced it with the same design of truck.

X Q. 35. Suppose you had no such parts on hand; what then?

A. That position never occurred to me; therefore I am unable to say what I should have done.

X Q. 36. Whose duty was it to buy the new freight cars during the time you were superintendent of the rolling stock?

A. I think that Mr. William D. Bishop did the purchasing or the direction of it where any considerable amount of money was required, as would be in the case of an addition to rolling stock. He was president of the road.

X Q. 37. Who specified the weight of car and the form of the car and trucks during the time that you were superintendent of rolling stock?

A. There were no cars purchased; therefore there were no specifications.

X Q. 38. What was your position or connection with the company, and for how long, prior to January 1, 1884?

A. From 1871 to 1884 I was more or less connected with the road.

X Q. 39. Do you know about when the truck which you designate as the "Diamond truck," shown in "defendant's model L. V. R. R. truck No. 1," was first put in operation on the Naugatuck railroad?

A. I think about 1880 or 1881, as near as I can remember it.

X Q. 40. Has any other new form of truck been used since that to your knowledge?

A. Only in one instance, and that was in a three-truck car which was purchased as an experiment.

X Q. 41. Did the first trucks of the design of the "L. V. R. R. truck No. 1" have an iron or a wooden bolster or truss of the same design known as the "Diamond truck?"

A. They had a wooden bolster.

184 X Q. 42. About how many of the cars now in operation on the road, comprised within the power of the road for which you were superintendent of rolling stock, containing the "Diamond" truck similar to "L. V. R. R. truck No. 1" as shown in model?

A. The Naugatuck railroad is now leased by the N. Y., N. H. & H. R. R., and I do not know what proportion of the rolling stock of the N. Y., N. H. & H. R. R. Co. has the "Diamond trucks."

X Q. 43. Should you judge that the number was more than one-half of the entire number of freight cars owned by the N. Y., N. H. & H. R. R.?

A. The only proportion which I can give you is the proportion of the Naugatuck R. R. equipment, which was about one hundred and eighty-five in five hundred.

X Q. 44. And what truck had the balance of the five hundred?

A. Some wooden trucks. Approximately, fifty or more of the trucks as shown by the blue print and photographs; and the balance of the five hundred were miscellaneous wood-pattern trucks.

Redirect examination by Mr. McCALLUM:

Q. 45. In answer to a question referring to the blue print and photographs of the Naugatuck truck and the model of the L. V. truck, you said that the construction of the "truss" is materially the

same. Do you use the word "truss" as synonymous with "bolster" or an equivalent term for the same thing?

A. I mean one and the same thing, "truss" and "bolster."

Mr. GEORGE W. BEACH recalled, and question 17 again read to him.

By Mr. McCALLUM:

Q. 1. Do you desire to alter the answer to that question? If so, please do so.

185 A. I do. The statement not having been made clear to the counsel, I desire to correct the statement as follows: The term "bolster" was not by us used, but that which you thus refer to was known to me as "truck centre." It was attached to the truck frame by a bolt running through the truck centre at its ends, from the top of the truss of the side of the truck to the bottom strap or base of the truck, making the same stationary or rigid, while the model shows the centre to be loose. The top plate or truss rested on the bottom plate, and was secured at each end of the bottom plate by means of a lip being turned up on each end of the same, as shown on the blue print. By "truss" I mean that which you term the "bolster," which consists of the two iron plates, one in the form of a truss, the other straight, but united at the ends.

Recross-examination by Mr. CARTY:

X Q. 2. The answer which you have just given has been read by you from a written paper, has it not?

A. It was.

X Q. 3. Who wrote the answer on the paper?

A. Myself.

X Q. 4. At whose suggestion?

A. My own.

X Q. 5. When?

A. At the dinner hour.

X Q. 6. During the recess of taking testimony?

A. It was.

X Q. 7. And after consultation with counsel for the defendant?

A. No consultation.

X Q. 8. A talk upon the subject?

A. The counsel said it was not quite clear to him what I intended and what I said. Without dictation from him, I wrote what I have read and asked him, in placing it in his hands, if that was clear.

186 (Statement.—Counsel for defendant says that the witness desired to read his testimony during the recess and was given a copy of the same. That the answer to question seventeen (17), as by reference to the same would appear, is unintelligible, and the witness has evidently been misquoted by the typewriter, and he informed the witness that he could amend any answer he might choose before he had signed the testimony.

United States Circuit Court, Eastern District of Pennsylvania.

HARRY C. MCCARTY and JOHN F. BICKEL
v.
THE LEHIGH VALLEY RAILROAD COMPANY. } In Equity.

Testimony taken on part of defendant, pursuant to agreement of counsel, before D. G. Stuart, a notary public, at the office of Andrew McCallum, 614 F street N. W., Washington, D. C., March 29, 1890.

Present: Jerome Carty, Esq., counsel for complainants.
Andrew McCallum, Esq., counsel for defendant.

Counsel for defendant offers in evidence copies of the following letters patent in illustration of what is referred to by Mr. McCarty in his answers to cross-questions 36 and 37 of his testimony respecting the use of guide-blocks for bolsters.

No. 98675, Isaac Dripps, January 11, 1870, and No. 242,670, W. J. McCoy and B. Dean, June 7, 1881, and reference is made to the "Car-builders' Dictionary" already in evidence, to drawings and descriptions of said guide-blocks which hold the bolster in position as it moves up and down on the springs.

(Mr. Carty objects as being irrelevant and immaterial.)

It is stipulated between counsel, that in printing the record all immaterial parts of the file-wrappers and contents may be omitted; but that all the claims ever presented shall be set forth in the record.

187 It is further agreed that the sketches referred to in the testimony of the witnesses, illustrative of the answers, shall be printed in the record; but large exhibits like the blue prints offered in evidence by defendant need not be reproduced, including Exhibits 12 and 13.

Mr. Carty offers in evidence the original model, illustrative of the invention referred to by Mr. McCarty in his testimony as having been exhibited at the Master Car-builders' convention, held at Niagara Falls, in October, 1882.

Counsel for defendant objects to the offer of this model, the same not being presented for examination and no means of identification being offered.

Complainants and defendant close.

[SEAL.] D. G. STUART,
Notary Public.

March 29, 1890.

188 "DEFENDANT'S EXHIBIT FOUNDRY STATEMENTS." D. G. Stuart, N. P. Dec. 27, '89.

(C. S. form 39.)

Lehigh Valley railroad.

Shipment of castings from Weatherly to J. S. Lentz, Packerton, on car No. 4089, D., L. & W., Sept. 6th, 1882.

Kind of casting.	No. pieces.	Weight.
A— 9	18	42
19	45	2,925
19 lids	49	237
21	28	1,428
21 lids	28	158
24	23	828
25	32	1,344
29	27	479
B—30	10	1,100
39	13	195
40	13	195
46	7	707
55 tr'k bolster cap	2	111
Br'k-wheels	20	520
D—10	9	558
" 11	8	134
Am't forward		10,961

189 "DEFENDANT'S EXHIBIT FOUNDRY STATEMENTS." D. G. Stuart, N. P. Dec. 27, '89.

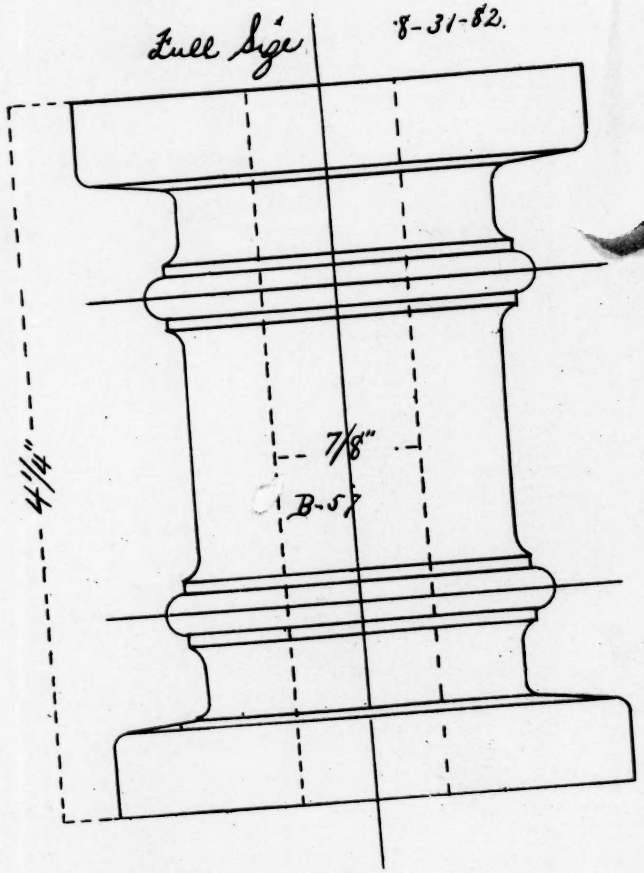
(C. S. form 39.)

Lehigh Valley railroad.

Shipment of castings from Weatherly to J. S. Lentz, Packerton, on car No. 1898, L. V., Sept. 13th, 1882.

Kind of castings.	No. pieces.	Weight.
A—19	27	1,755
" 19 lids	54	264
" 21	15	765
" 21 lids	28	159
" 24	11	396
" 25	11	462
B— 2	52	50
" 10	19	182
" 24	20	166
" 25	19	123
" 30	24	2,640
" 39	12	182
" 40	12	182
" 46	30	3,060
" 55 tr'k bolster cap	1	58
D—10	9	558
Am't forw'd		11,002

"Defendant's Exhibit Montz Original Sketch."—D. G. Stuart, N. P. Dec. 28, '89.



No. 9.
McCarty v. Lehigh RR } p. 191

190 "DEFENDANT'S EXHIBIT FOUNDRY STATEMENTS." D. G. Stuart, N. P. Dec. 27, '89.

(C. S. form 39.)

Lehigh Valley railroad.

Shipment of castings from Weatherly to J. S. Lentz, Packerton, on car No. 4798, red line, Sept. 14, 1882.

Kind of castings.	No. pieces.	Weight.
A—19	42	2,730
19	56	273
21	15	765
21	28	159
24	12	432
25	11	462
2	63	57
10	20	190
24	20	163
25	20	129
30	23	2,530
39	12	181
40	12	181
55 tr'k bolster cap	1	58
58 centre plate	2	126
D—10	8	496
Am't forw'd		8,932

(Here follows diagram marked p. 191.)

193 UNITED STATES PATENT OFFICE.

ISAAC DRIPPS, of Fort Wayne, Indiana.

Letters Patent No. 98675, dated January 11, 1870.

Improvement in Railway-car Trucks.

The schedule referred to in these letters patent and making part of the same.

To all whom it may concern:

Be it known that I, Isaac Dripps, of Fort Wayne, in the county of Allen, and State of Indiana, have invented a new and useful improvement in railroad-car trucks; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

(Here follows diagram marked p. 192.)

Figure 1 is a side view of my improved car-truck.

Figure 2 is a detail section of the same, taken through the line *x x*, Fig. 1.

Figure 3 is a detail top view of the middle part of one side of the truck.

Figure 4 is a detail sectional view of the same, taken through the line *y y*, Fig. 1.

My invention has for its object to furnish an improved railroad-car truck, which shall be simple in construction, strong and durable, cannot be knocked out of square, and will be sufficiently flexible to allow each side of the truck-frame to accommodate itself to inequalities of track, thereby relieving the wheels from any undue shocks from bad joints or other unevenness of the rails; and

It consists in the construction and combination of various parts of the truck, as hereinafter more fully described.

A are the wheels.

B are the journal-boxes; and

C are the iron frames connected with and connecting the journal-boxes B.

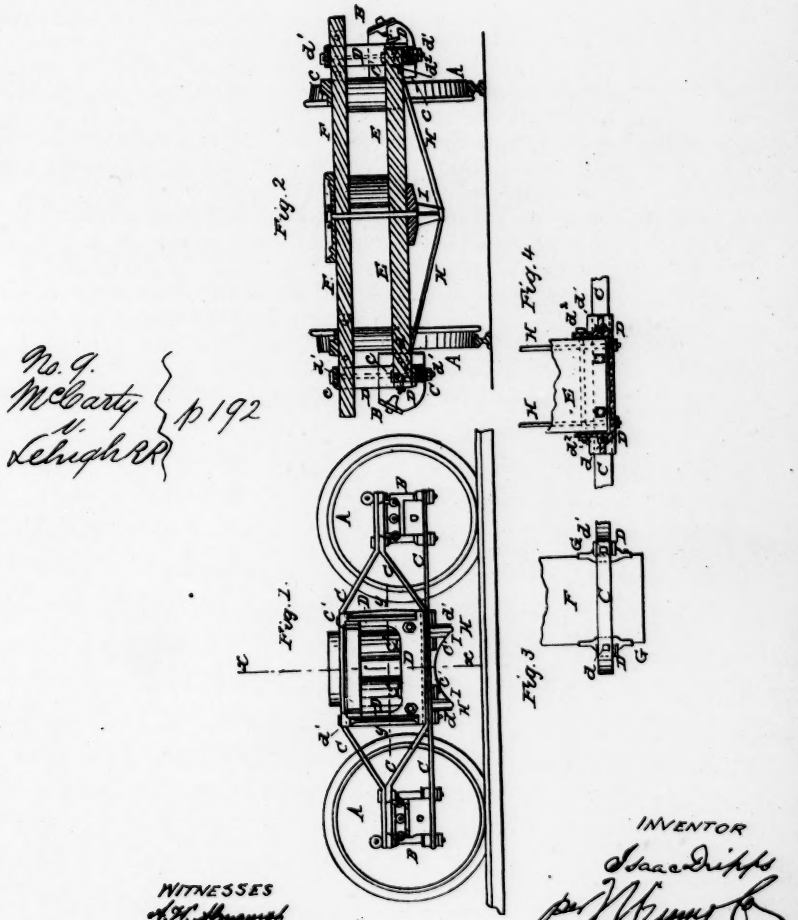
D are iron frames placed between the upper and lower bars of the frames C, and which are securely bolted to the said frames C by the bolts d^1 passing down through the uprights of said frames D, as shown.

E is the lower plank or timber, which is made wide and thin, to give the necessary flexibility to the truck, and the ends of which rest upon the lower bars of the frames C, and against the upwardly-projecting base-bar or flange of the frames D, as shown in Figs. 2 and 4.

I. DRIPPS.

Railway Car Truck.

No. 98,675. Patented Jan'y 11, 1870.



No. 9.
McCarty
v.
Lehigh RR
p 192

WITNESSES
A. H. Shugmeyer
Alex. F. Roberts

INVENTOR
Isaac Dripps
per Munn & Co
attorneys

The ends of the timber E are secured to the lower parts of the frame C by the vertical bolts c', and to the frames D by the horizontal bolts d^2.

F is the upper plank or timber, which rests upon and is supported by rubber blocks or other springs placed between the two timbers E F.

The ends of the timber or plank F pass beneath the top bars of the frames C, and between the upright parts of the frames D, with which said uprights they are connected, and at the same time made to move up and down vertically by the guide-blocks G attached to the edges of the timber F, and the outer sides of which are notched or recessed to receive and slide up and down upon the said uprights of the said frames D.

H are the brace and tie rods, the middle parts of which pass beneath the lower ends of the blocks or knees I attached to the under side of the middle part of the lower plank E, and the ends of which pass through the base-bars or flanges of the frames D, as shown in Figs. 1, 2, and 4, where they are secured by nuts.

By this construction and arrangement, the more weight that is applied to the truck, the firmer will the frames D be forced against the ends of the plank E, so that so long as the tie-rods or bolts H remain unbroken, the truck-frames cannot be knocked to pieces.

Having thus described my invention,

I claim as new, and desire to secure by letters patent—

The combination of tie and brace-rods H, with lower timber E and frames D, all arranged as and for the purpose set forth.

ISAAC DRIPPS.

Witnesses:

W. A. DRIPPS.

G. C. DRIPPS.

The ends of the timber E are secured to the lower parts of the frame C by the vertical bolts c', and to the frames D by the horizontal bolts d^2.

F is the upper plank or timber, which rests upon and is supported by rubber blocks or other springs placed between the two timbers E F.

The ends of the timber or plank F pass beneath the top bars of the frames C, and between the upright parts of the frames D, with which said uprights they are connected, and at the same time made to move up and down vertically by the guide-blocks G attached to the edges of the timber F, and the outer sides of which are notched or recessed to receive and slide up and down upon the said uprights of the said frames D.

H are the brace and tie rods, the middle parts of which pass beneath the lower ends of the blocks or knees I attached to the under side of the middle part of the lower plank E, and the ends of which pass through the base-bars or flanges of the frames D, as shown in Figs. 1, 2, and 4, where they are secured by nuts.

By this construction and arrangement, the more weight that is applied to the truck, the firmer will the frames D be forced against the ends of the plank E, so that so long as the tie-rods or bolts H remain unbroken, the truck-frames cannot be knocked to pieces.

Having thus described my invention,

I claim as new, and desire to secure by letters patent—

The combination of tie and brace-rods H, with lower timber E and frames D, all arranged as and for the purpose set forth.

ISAAC DRIPPS.

Witnesses:

W. A. DRIPPS.

G. C. DRIPPS.

196 UNITED STATES PATENT OFFICE.

WILLIAM J. MCCOY and BART DEAN, of Jeffersonville, Indiana.

Bolster for Car-trucks.

Specification forming part of Letters Patent No. 242,670, dated June 7, 1881. Application filed April 27, 1881. (No model.)

To all whom it may concern:

Be it known that we, William J. McCoy and Bart Dean, citizens of the United States, residing at Jeffersonville, in the county of Clarke and State of Indiana, have invented new and useful improvements in top bolsters for railway car-trucks, of which the following is a specification.

This invention relates to top bolsters for car-trucks, the object being to provide a simple means whereby the bolster may be formed of two separate beams united by blocks and plates in such a manner as to leave between them an intervening space or spaces for the passage of necessary bolts, and thus obviate the danger of weakening the bolster arising from boring it at the center for the passage of the king-bolt; and the invention consists in the construction and arrangement of parts, as hereinafter more fully described and claimed.

(Here follow diagrams marked pp. 194 & 195.)

In the accompanying drawings, which fully illustrate the invention, figure 1 is a side view of a car-truck embodying our improvements. Fig. 2 is a side view of our improved bolster, partly in section. Fig. 3 is a top view; and Fig. 4 is a transverse section.

Like letters indicate like parts in the several views.

A are the wheels, B the journal-boxes, and C C′ C^2 are iron frames or bars attached to and connecting the journal-boxes with the bolsters.

The lower bolster, D, rests upon the lower bars, C, and supports rubber blocks or other suitable springs, E E, of any desired construction, upon which, in turn, rests the top bolster, F, that passes under the upper arch-bar, C. On the sides of the bolster F, at each end, are guide-blocks F′, which are grooved for engagement with the vertical bars C′ C′, upon which they slide. By this means the bolsters have a flexible connection with the journal-boxes that prevents undue strain from sudden jars in passing over unequal tracks.

In order to overcome some of the more common difficulties experienced in obtaining well-seasoned timber of suitable dimensions for the top bolsters of car-trucks, and also to avoid the necessity of boring such bolsters at the center for the passage of the king-bolt, it has been found of advantage to construct the bolster of two separate beams, which may, if desired, be of less than half the size that

(No Model.) 2 Sheets—Sheet 1.

W. J. McCOY & B. DEAN.

Bolster for Car Trucks.

No. 242,670. Patented June 7, 1881.

No 9 McCarty } p 194
Lehigh
R R

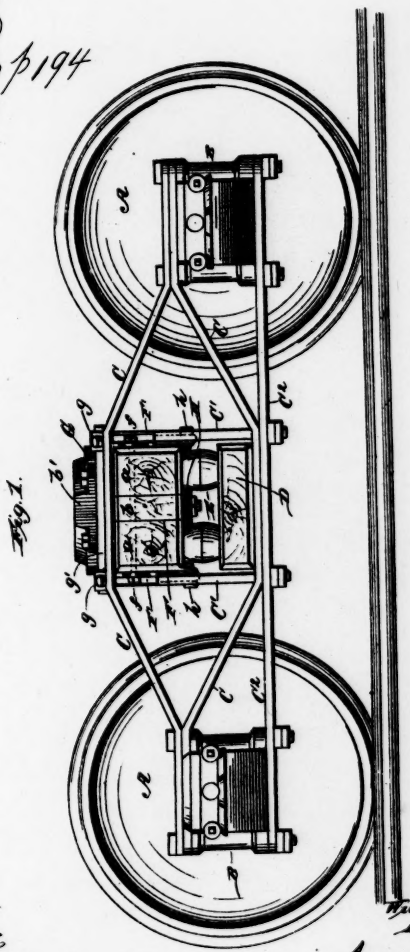


Fig. 1.

Witnesses.
Robert Everett
J. A. Rutherford

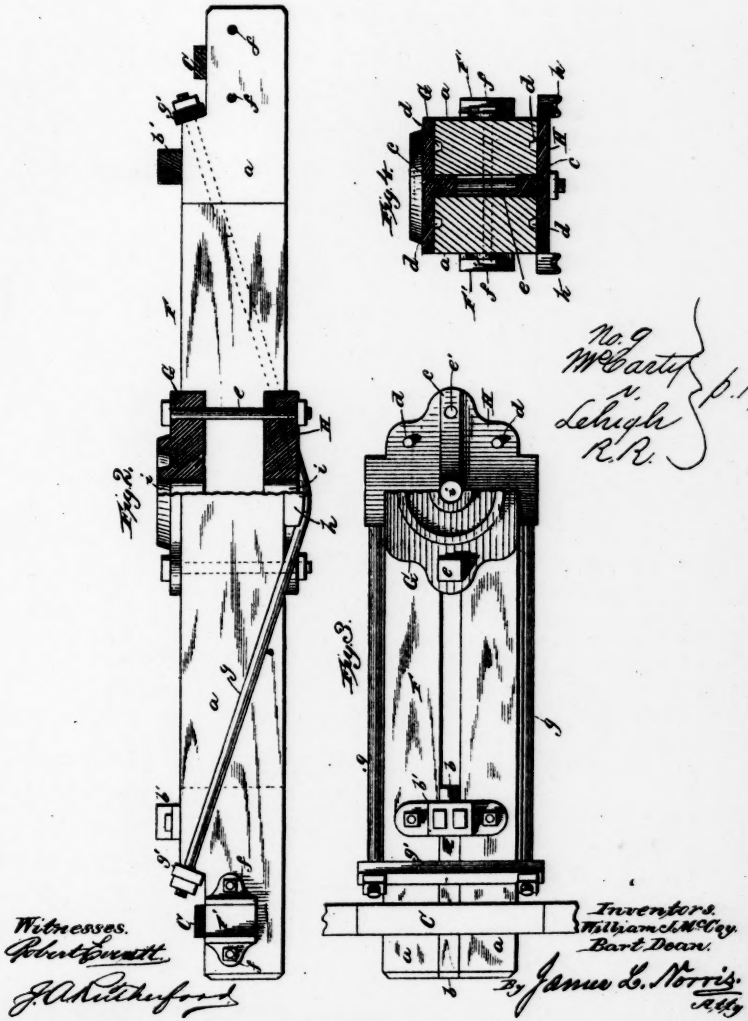
Inventors.
William J. McCoy.
Bart. Dean.
by James L. Norris
Atty

(No Model.) 2 Sheets—Sheet 2.

W. J. McCOY & B. DEAN.

Bolster for Car Trucks.

No. 242,670. Patented June 7, 1881.



No. 9 McCarty v. Lehigh R.R. p. 195

would be otherwise required, and, if properly braced and connected, will be of equal, if not increased, strength. These beams *a a* are placed parallel to each other and separated by intervening blocks *b*, that are secured between them at the ends of the bolster. The blocks *b* extend far enough to support the side bearings *b'*, and are of such width or thickness that a space of about two inches, preferably, is left between the side beams.

At the center of the top bolster are the top and bottom plates, G H, which are formed with central lugs or strut-flanges, *c*, that pass between the beams *a a* for the purpose of holding them apart. These plates G H are also provided with pins or nipples *d*, which enter the side beams, *a a*, and prevent them from spreading or springing. The top and bottom plates are securely attached to the bolster-beams and to each other by tie-bolts *e*, that enter openings *e'* and pass through the lugs *c* in the space between the beams. At their ends the side beams are securely connected by the guide-bolts *f f*, that secure the guide-plates F' in place, and also pass through the blocks *b*. These are the only bolts that pass through the timber of which the bolster is composed, and therefore the liability of undue strain and weakness at these points, where openings for bolts are ordinarily required, is largely diminished.

The bolster is firmly braced by the longitudinal truss-rods *g g*, which are connected at their ends by cross bars or ties *g' g'*, that are secured by suitable nuts and rest against inclined shoulders formed in the upper part of the beams. These truss-rods engage with the usual grooved projections, *h h*, on the lower center plate, H, and thus centrally sustain the two spaced beams composing the bolster.

In the center of each of the metal plates G H is an opening, *i*, for the reception of the king-bolt, which passes through the space between the beams *a a*.

It is evident that as by this construction the usual necessity of boring the bolster at this point is obviated the consequent danger of strain and liability of fracture therefrom is also avoided.

197 By this construction it is also possible to employ timbers of less than the dimensions ordinarily required, which involves an additional advantage, as such timbers may be obtained more conveniently and cheaply, and usually are better seasoned.

What we claim is—

1. A top bolster for car-trucks, combining in its structure two parallel beams spaced by interposed end blocks, top and bottom center plates connected by bolts passing between the two beams and centrally perforated for the passage of the king-bolt between the spaced beams, and longitudinal truss-rods, one for each beam, connected at their ends with cross-bars, which abut against the beams, substantially as described.

2. In a top bolster for car-trucks, the combination, with the parallel spaced beams having intervening blocks at their ends and braced by longitudinal truss-rods, of top and bottom center plates having projecting central flanges arranged in the spaces between the

beams, and perforated for the passage of the king-bolt, substantially as set forth.

3. In a top bolster for car-trucks, the combination of the side beams, *a a*, having intervening blocks *b* at their ends, perforated top and bottom center plates, G H, having central flanges, *c*, and nipples *d*, and the longitudinal truss-rods *g g*, substantially as and for the purpose shown and described.

In testimony whereof we have hereunto set our hands in the presence of two subscribing witnesses.

WILLIAM J. McCOY.
BART DEAN.

Witnesses:
W. S. McDONELD.
GEORGE H. VOIGT.

(Here follow diagrams marked pp. 198, 199, and 200.)

201 And afterwards, to wit, on the 10th day of June, A. D. 1890, come the parties aforesaid, by their counsel aforesaid and this cause being called for argument on final hearing and having been argued by counsel for the respective parties and the court, not being fully advised in the premises, takes further time to consider thereof.

And afterwards, to wit, on the 20th day of June, A. D. 1890, come the parties aforesaid, by their counsel aforesaid, and the court, being now fully advised in the premises, files the following opinion, viz:

202 In the Circuit Court of the United States in and for the Eastern District of Pennsylvania, in the Third Circuit.

HARRY C. McCARTY *et al.*
vs.
THE LEHIGH VALLEY RAILROAD COMPANY. } No. 23. October Session, 1888.

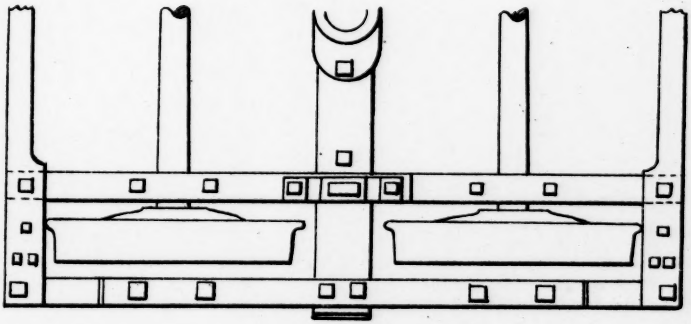
The two patents in suit are for substantially the same combination, except that the last applied for (though first issued) omits the "truss rods" described in the first application.

While both are, in terms, for an "improvement in car trucks," they are actually for an improvement in "truck bolsters" only.

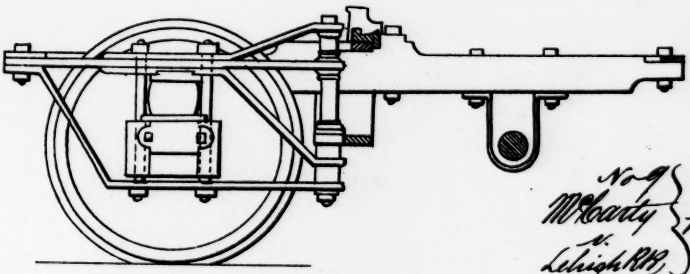
The improvement consists in forming a bolster of an upper and lower metal bar, the latter being straight and a little longer than the former, with the excess of length turned up or "flanged" at the ends to form a support for the other, the upper being arched from near the ends, which are straight, and rest against the "flanges" on the lower.

The bars are secured in position by central upright col-
203 umns, short intermediate wedge shaped blocks, inserted near the ends, and by bolts where the ends unite. Under the ends of the lower bar "guide-plates" are fastened to keep them in place over the springs, on which they rest. This relation to the

Mangalitsk R. R. Iron Truck No. 1

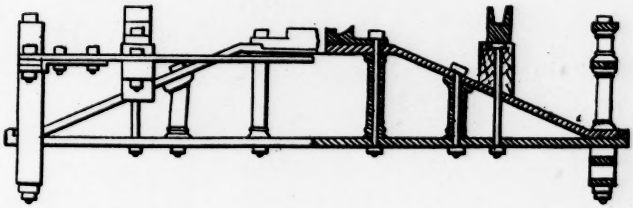


PLAN



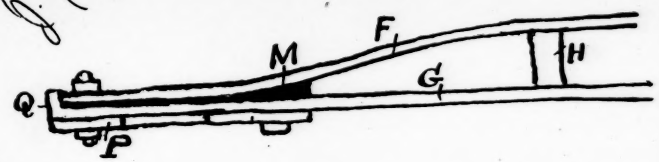
HALF SIDE ELEVATION

No. 9
McCarty } p. 198
& Lehigh RR.



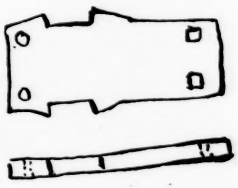
HALF END ELEVATION.

3d. claim Patent No. 339.913



Defendants Exhibit N Central Illinois Ry Co
Third claim of Pat 339913
J. L. K.

The lower bar G having flanges Q turned up on its ends, in combination with the arched upper bar F, having its ends bearing against said flanges the guide plates P, bolted to the ends of said bars under the same, the stops or blocks M, inserted between bars F & G near their ends, and the pillars H, also interposed between said bars, as stated."



Guide Plate P of 3d & 4th claims of Patent No. 339.913

N. Central R. R. Co

No. Central Railway Co. Exhibit 40

M Carty
L.V.R.R Co

Defendants Exhibit
2 nd Claim Patent 314459
Feb 16/09 J. & K

2d - Claim pat No. 314 459

3d - Claim pat 314.459

M Carty Testimony X2 104 Feb. 16/09
X2 110 "

springs imparts to the bolster a swinging or "floating" motion on the truck. In the first application (and the patent issued thereunder) "truss rods" are also called for.

The defense assails the patent (for want of invention) and also denies infringement.

The history of the art shows that "body bolsters" (so termed in contradistinction to "truck bolsters") in form and general structure similar to the complainant's bolster had long been in use and adapted and applied to trucks before the complainant's alleged invention. The "Naugatuck truck bolster" is of this description and differs from the complainant's only in the absence of "flanges" on the lower bar,* the wedge-shaped blocks, and "guide-plates." It was fastened rigidly upon the truck, the springs being placed over the journal bearings, imparting a swinging motion to the carriage on which the sides *of the* rest. This history further shows that bolsters composed of single heavy, straight bars or beams, with the ends resting on springs (so as to allow them to swing), and kept in
204 place over the springs by guides, had long been used. Such were the "Diamond bolsters."

It is thus seen that what the complainant did was to transfer the "Naugatuck bolster" from its rigid situation to that of the "Diamond," add flanges† and guide-plates to the lower bar and the intermediate wedge-shaped blocks.

Did this require invention? What constitutes invention within the meaning of the patent laws, as is said in The American Split-feather Duster Co. *vs.* Levy, decided by this court at the present term, has been so fully and repeatedly discussed in the numerous cases in which the question has arisen that further elaboration would be waste of time. Two-thirds, probably, of all suits brought to enforce patents have involved it, and more time has been employed in its elucidation than has been expended on any other question of patent law. As remarked by the Supreme Court in Hollister *vs.* The Benedict Manuf. Co., 113 U. S., 59, a device "which displays only the expected skill of the maker's calling and involves only the exercise of ordinary faculties of reasoning upon material supplied by special knowledge and facility of manipulation resulting from habitual intelligent practice is in no sense a creative
205 work of inventive faculty and such as the Constitution and patent laws aim to encourage and reward." It is something, as the court further says at page 72, "which springs from an intuitive faculty of the mind put forth in search of new results or new methods, creating what had not before existed or bringing to light what lay hidden from vision." In other words, it is a new thing produced by the exercise of the inventive or creative faculty and not by the employment simply of common reason applied to existing and known facts.

In Hollister *vs.* The Benedict Manuf. Co. the improvement involved exhibited great ingenuity and was of much value, and yet the court held it to be without patentable novelty.

In this view of the law does the complainant's improvement show invention? Surely the transfer of the "Naugatuck truck" to the

situation of the "Diamond" did not require invention. The advantages of resting the bolster on springs had previously been discovered and the method of doing it successfully been applied. All else the complainant did was to add the "flanges," the "guide-plates," and the wedge-shaped blocks. I am unable to see
206 any special advantage arising from the latter; additional columns or posts or thickening the bar ends would seem to answer the same purpose, and besides the respondent does not use them. The "guide-plates" do not materially differ from the old guides nor serve any new purpose. They are intended to keep the ends in place over the springs. The suggestion that they afford support to the upper bar is without force. If such additional support were needed it could as well be obtained by increasing the thickness of the ends of the lower bar or adding an additional short bar or plate thereto; and besides some of the old guides measurably afford similar support. The "flanges"* are useful, as they serve to reinforce the bolts, and thus aid in maintaining the adjustment of the bar ends; but "flanges" are a very old and common device and have long been applied to analogous uses. I think any mechanic of ordinary skill in such work, directed to reinforce the bolts and add further security to the end adjustment, would do it as the patentee did, or by means of a simple box (the plain equivalent of what he used) as Montz, a rival patentee, did. Such would be the most obvious method of accomplishing it.

The truss rods described in the earlier application (but no
207 longer employed) are also old devices and were in common use for similar structures long before the patentee employed them. If not previously used in bolsters† their application to that purpose would not require invention. Such new use would clearly be analogous to the old, and, moreover, they are admitted to be immaterial by the abandonment of there use.

With a predisposition to sustain the patent because of the presumption arising from its grant and because the patentee's work has some merit, I find myself unable to do so. Whether the parts of the bolster be considered separately or in combination, I cannot find patentable novelty in what the patentee did.

The doctrine of estop-el, to which the complainant appeals on account of Montz's application for a patent covering substantially the same combination and the proceedings under it, does not apply. Without considering whether it would apply to Montz, it is sufficient to say that the respondent is not Montz and is not bound by his acts. The circumstance that he was in its employment at the time is unimportant. He was not employed to represent it in the Patent Office. His application there and all he did respecting it were on his *on* own account.

A decree may be prepared accordingly.

208 † On re-examination of the exhibits since the foregoing opinion was written I find that "truss rods" are shown on the old Roberts bolster, and in Mr. McCarty's testimony, at page 26, he says he does not claim infringement of these rods.

* I also find by closer inspection of the Naugatuck bolster exhibit the equivalent, I think, of the complainant's "flanges." The ends of the lower bar are turned up and laid back so as to meet and support the ends of the upper, serving the same purpose as the "flanges." The latter must therefore, also, be regarded as old.

[Endorsed:] 23. Oct. sess., 1888. C. C. U. S., E. D. of Pa. McCarty *et al. vs.* Lehigh Valley Railroad Co. Copy. Opinion of court. Filed June 20, 1890.

209 And afterwards, to wit, on the 27th day of June, A. D. 1890, the court enters the following decree, viz:

At a stated term of the United States circuit court for the eastern district of Pennsylvania, held in the city of Philadelphia, at the May term thereof, 1890, to wit, on the 20th day of June, 1890.

Present: Hon. William Butler, justice.

HARRY C. McCARTY and JOHN F. BICKEL
vs.
THE LEHIGH VALLEY RAILROAD COMPANY. } No. 23. Oct. Session, 1888.

Decree.

210 This cause coming on to be heard upon the pleadings and proof and argument of counsel, whereupon the court doth find, order, adjudge, and decree—

That the letters patent named in the bill herein and granted to Harry C. McCarty, assignor of one-half to John F. Bickel, dated March 24, 1885, and numbered 314,459, and April 13, 1886, numbered 339,913, are invalid and void in law.

And consequently it is further ordered, adjudged, and decreed that the bill of complaint herein be, and the same is hereby, dismissed with costs to the defendants, to be taxed.

(Endorsed:) U. S. circuit court, eastern dist. of Pa. No. 23. Oct. sess., 1888. McCarty *et al. vs.* Lehigh Valley R. R. Co. Decree. Filed June 27, 1890.

211 And now, to wit, on the 19th day of August, A. D. 1890, the complainants, by their counsel, comes into court here and prays an appeal from the decree of this court entered June 27, 1890, to the Supreme Court of the United States in the words and figures following, viz:

U. S. C. C., Eastern District Penna.

HENRY C. McCARTY and JOHN F. BICKEL
vs.
LEHIGH VALLEY RAILROAD COMPANY. } October Sessions, 1888. No. 23. In Equity.

And now, 19 day of August, A. D. 1890, the complainants, by Jerome Carty, Esq., their solicitor, come into court and pray an appeal to the Supreme Court of the United States from the final de-

cree of this court entered in the above-entitled cause on the twenty-seventh day of June, 1890, which appeal is allowed, appeal
212 bond to be entered in the sum of five hundred dollars.

(Endorsed:) U. S. C. C., E. D. of Penna. Oct. sess., 1888. No. 23. Equity. McCarty *et al. vs.* Lehigh Valley R. R. Co. Allowance of appeal. Filed Aug. 19, 1890.

213 In the Circuit Court of the United States in and for the Eastern District of Pennsylvania, in the Third Circuit.

HARRY C. MCCARTY and JOHN F. BICKEL *vs.* THE LEHIGH VALLEY RAILROAD COMPANY. } No. 23. October Sess., 1888.

Know all men by these presents that we, Henry C. McCarty and John F. Bickel, as principals, and Lewis Wiener, No. 1730 Spruce street, of Philadelphia, Penna., and Isaac L. Miller, of Media, Delaware Co., Penna., are held and firmly bound unto the above-named The Lehigh Valley Railroad Company in the sum of five hundred dollars ($500), to be paid to the said The Lehigh Valley Railroad Company, their certain attorney, successors, or assigns; to which payment, well and truly to be made, we bind ourselves, our respective heirs, executors, and administrators, jointly and severally, by these presents.

Sealed with our seals and dated this — day of ——, A. D. 188–.

Whereas lately, at a circuit court of the United States in and for the eastern district of Pennsylvania, in the third circuit, in a suit depending in the said court between Harry C. McCarty and John F. Bickel, complainants, and The Lehigh Valley Railroad Company, respondent, a final decree was rendered against the said Harry C. McCarty and John F. Bickel, and the said Harry C. McCarty and John F. Bickel having taken an appeal, which appeal has been allowed by the said circuit court, to the Supreme Court of the United States to reverse the said decree in the aforesaid suit:

214 Now, the condition of this obligation is such that if the said Harry C. McCarty and John F. Bickel shall prosecute their said appeal to effect and answer all damages and costs if they fail to make their appeal good, then this obligation to be null and void; otherwise to remain in full force and virtue.

HARRY C. MCCARTY. [SEAL.]
JOHN F. BICKEL. [SEAL.]
LEWIS WIENER. [SEAL.]
ISAAC L. MILLER. [SEAL.]

Sealed and delivered in the presence of—
J. SCOTT.
JOHN A. MERRICK.
J. D. NEVINS.

Approved:
W. MCKENNAN, *Judge.*

[Endorsed:] No. 23. October sess., 1888. Circuit court United States. McCarty *et al. vs.* Lehigh Valley R. R. Co. Bond surappeal. Approved and filed Oct. 1, 1890.

215 THE UNITED STATES OF AMERICA, *ss:*

To the Lehigh Valley Railroad Company, Greeting:

You are hereby cited and admonished to be and appear at a Supreme Court of the United States, to be holden at Washington, on the second Monday of October next, pursuant to an appeal filed in the clerk's office of the circuit court of the United States for the eastern district of Pennsylvania, in the third circuit, wherein Harry C. McCarty and John F. Bickel are appellants and you are appellees, to show cause, if any there be, why the decree rendered against said appellants, as in said appeal mentioned, shall not be corrected and why speedy justice should not be done to the parties in that behalf.

Witness my hand this 1st day of Oct., in the year of our Lord one thousand eight hundred and ninety.

W. McKENNAN, *Judge.*

WASHINGTON, D. C., *October* 4, 1890.

Service acknowledged.

ANDREW McCALLUM,
Solicitor for Defendant.

216 UNITED STATES OF AMERICA, }
Eastern District of Pennsylvania, } *sct:*

I, Samuel Bell, clerk of the circuit court of the United States of America for the eastern district of Pennsylvania, in the third circuit, do hereby certify the foregoing to be a true and faithful copy of the original pleas and proceedings in the case of Harry C. McCarty and John F. Bickel *vs.* The Lehigh Valley Railroad Company, No. 23, October session, 1888, on file and now remaining among the records of the said court in my office.

In testimony whereof I have hereunto subscribed my name and affixed the seal of the said court, at Philadelphia, this 8th day of October, in the year of our Lord one thousand eight hundred and ninety, and of the Independence of the United States the one hundred and fifteenth.

Seal U. S. Circuit Court, E. D. Pennsylvania.

SAMUEL BELL,
Clerk of C. C.

Endorsed on cover: Case No. 14,323. E. Pennsylvania C. C. U. S. No. 9. Harry C. McCarty and John F. Bickel, appellants, *vs.* The Lehigh Valley Railroad Company. Filed October 17, 1890.

Office Supreme Court U. S.
FILED.
OCT 31 1895
JAMES H. McKENNEY,
CLERK.

No. 9. October Term, 1895.

Supreme Court of the United States

Harry C. McCarty and John F. Bickel,
Appellants,

vs.

The Lehigh Valley Railroad Company,
Appellees,

Brief for Appellants.

TABLE OF CONTENTS

	PAGE
Statement of the Case	1
Assignments of Error	5
History of the Inventions	6
Nature of the Inventions:	
State of the Art	11
Of what Improvement Consists	13
Scope of McCarty Invention as tested by Specifications and Claims	18
Anticipation	22
Infringement	27

JEROME CARTY,
R. A. PARKER,
of Counsel.

M 13

In the

Supreme Court of the United States.

No. 9. October Term, 1895.

HARRY C. McCARTY AND JOHN F. BICKEL,
Appellants,

vs.

THE LEHIGH VALLEY RAILROAD COMPANY,
Appellees.

Appeal from the Circuit Court of United States for the Eastern District of Pennsylvania.

BRIEF FOR APPELLANTS.

Statement of the Case.

This is an appeal from the decree of the Circuit Court of the United States for the Eastern District of Pennsylvania dismissing the Bill filed by the complainants, and entered June 27, 1890, which said decree was in terms as follows:

"This cause coming on to be heard upon the pleadings and proof and argument of counsel, whereupon the Court doth find, order, adjudge and decree:

"That the Letters Patent named in the Bill herein and granted to Harry C. McCarty, assignor of one-half to John F. Bickel, dated March 24, 1885, and numbered 314,459, and April 13, 1886, numbered 339,913, are invalid and void in law.

" And consequently it is further ordered, adjudged and decreed that the Bill of Complaint herein be and the same is hereby dismissed with costs to the defendants to be taxed."

The BILL was filed by Harry C. McCarty and John F. Bickel, the complainants, against the Lehigh Valley Railroad Company, the defendant charging infringement of Letters Patent to Harry C. McCarty for an Improvement in Metallic Bolsters for Car Trucks, more especially applicable to freight cars.

There are two patents; one dated *March 24, 1885, No. 314,459*, and the other dated *April 13, 1886, No. 339,913*. The application for the first patent *was filed June 5, 1884*, and the application for the second patent was filed *August 31, 1883*. (Transcript of Record, pp. 95 and 100.)

By stipulation of counsel (Record, pp. 12, 39), the controversy is limited to claims Nos. 2 and 3 of the patent of March 24, 1885, No. 314,459, and claims 1, 3 and 4 of patent of April 13, 1886, 339,913.

Claims 2 and 3 of 314,459 are as follows:

" 2. In a car truck a bolster consisting of upper and lower bars, and supporting angle-irons between the bars, said angle-irons being parallel to said upper and lower bars and bolted thereto through their flanges, substantially as and for the purposes set forth."

" 3. The upper bolster bar, D, having horizontal ends, in combination with the lower bolster bar, D″, having its ends extended beyond the ends of the bar D′, and folded back against them, these two bars composing the whole bolster substantially as shown."

And claims 1, 3 and 4 of Patent No. 339,913, are as follows:

" 1. As an improvement in car trucks the hereinbefore described bolster composed of bars connected together at their ends, and having their centres united and held in relative vertical positions by means of posts and bolts, in combination with the truss rods, substantially as and for the purpose set forth.

"3. The lower bar G, having flanges Q, turned up on its ends, in combination with the arched upper bar F, having its ends bearing against said flanges, the guide plates P, bolted to the ends of said bars under the same, the stops or blocks M, inserted between bars F and G, near their ends and the pillars H, also interposed between said bars as stated."

"4. The upper bolster composed of the bent bar F, straight bar G, and interposed columns M, in combination with the plates P, secured beneath the bars F, G, at their ends and notched or grooved on their sides at *a* to receive the columns B, of the side irons, substantially as and for the purpose set forth."

It may be furthermore stated, for the purpose of the simplification of the issue in this case, that it is substantially conceded that the defendants did not at the time of the filing of the Bill infringe claim No. 1 of the Patent No. 339,913, but inasmuch as it is admitted in the testimony that the defendants had constructed a certain number of cars containing the improvements mentioned in the said claim No. 1, being the bolster in controversy in combination with truss rods, it is desired to have an expression of the opinion of the Court as to the validity of the said claim. The question of direct infringement is, therefore, limited to claims Nos. 2 and 3 of Patent 314,459 and 1, 3 and 4 of Patent No. 339,913.

The ANSWER of the defendants sets up the following defenses :

First.—That the said McCarty was not the first and original inventor of the alleged improvements described in the said patents.

Second.—That the said alleged improvements are not of any advantage to the public, and not of great practical use and utility.

Third.—That the said alleged inventions in car trucks are not patentable inventions and have no practical utility.

Fourth—That the said alleged inventions or improvements, or all substantial and material parts thereof, were long before shown and described in the Letters Patent, and publications referred to in the answer and set up in the testimony.

Fifth.—That the said improvements were known and publicly used in the State of New York and elsewhere, by the New York Central and Hudson River Railroad Company, and that such use was known to William Buchanan and others, employees of the said Railroad Company. (It may be proper to state in this connection that no evidence whatever was submitted by the defendants as to this defense.) By a subsequent amendment (Record, p. 10,) the further defense was set up that the alleged invention was known and publicly used long prior to the discovery by the said McCarty in the State of Connecticut and elsewhere, by the Naugatuck Railroad Company, and such use was known to George W. Beach and others, employees of the said Railroad Company.

Sixth.—That the defendants have not infringed.

As the Court below dismissed the Bill of Complaint for want of novelty, and on the ground that the history of the art showed that "body bolsters" (so termed in contradistinction to "truck bolsters") in form and general structure similar to the complainant's bolster, had long been in use, and adapted and applied to trucks, before the complainant's alleged invention, and that the "Naugatuck truck bolster" was of this description (see exhibit and model), and differed from complainant's only in the absence of "flanges" on the lower bar, the "wedge-shaped blocks," and "guide plates," and as the Court below further assumed that what the complainant did was to transfer the "Naugatuck bolster" from its rigid situation by the addition of "flanges" and "guide plates" to the lower bar, and the intermediate wedge-shaped blocks, and concluded that such change did not involve invention, and was nothing more than mechanical skill, the following were filed as

Assignments of Error.

First.—The Court erred in dismissing the Bill of Complaint of complainants.

Second.—The Court erred in not sustaining the Bill of Complaint, and granting the prayers of relief as set forth in the Bill of Complaint.

Third.—The Court erred in holding that "The history of the art shows that 'body bolsters' (so termed in contradistinction to 'truck bolsters'), in form and general structure similar to the complainant's bolster, had long been in use, and adapted and applied to trucks before the complainant's alleged invention. The 'Naugatuck truck bolster' is of this description, and differs from the complainant's only in the absence of 'flanges' on the lower bar, the wedge-shaped blocks and 'guide plates.'"

Fourth.—The Court erred in holding that "it is thus seen that what the complainant did was to transfer the 'Naugatuck bolster' from its rigid situation, to that of the 'Diamond,' add flanges and guide plates to the lower bar, 'and the intermediate wedge-shaped blocks.'"

Fifth.—The Court erred in deciding that there was no novelty or invention in the complainant's device, and that it did not involve more than mere mechanical skill.

We respectfully submit, in view of the opinion, that substantially the sole question to be determined by this Court is whether the Court below was right in assuming that the "Naugatuck truck" as an anticipating device, involved in its principle of construction, mode of action, and result obtained, the inventions of McCarty which were secured by the claims of the two patents in question; and that if the claim and patent are valid, then there can be no reasonable doubt of infringement of some or all of the claims of one or both patents, as the defendant uses substantially the same combination of elements, combined in the same way, to effect the same result.

History of the Inventions.

Harry C. McCarty, the inventor of the improvement in metallic bolsters for car trucks, resides at Williamsport, Pa., and is the general car inspector of the Pennsylvania Railroad Company. He had been in that position since November, 1878. Prior to that time he was a car builder in the shops at Renovo, Pa., and has been in the employ of the Pennsylvania Railroad Company since 1872. The cause and origin of the invention in question was due to the large number of broken wooden bolsters of the well-known form in use in what was termed the "Diamond Truck" and other forms of car trucks.

The first experiment of Mr. McCarty was in 1880, with a bolster consisting of two iron plates and three pieces of timber arranged as per cross section shown in Exhibit No. 11, page 10, complainant's Record. This did not seem to meet the requirements, and, after a trial of some months during the year 1880, from the results obtained, Mr. McCarty conceived the idea of using two iron plates, without the use of wood or timber, and thereby formed a very strong bolster without the disadvantages found in the use of wood in connectien with the iron plates. This resulted in the application for the Patent No. 339,913 in combination with the use of truss rods. It was soon developed, however, that the form shown in the specifications and drawings of 339,913 possessed a very wide margin of strength without the use of the truss rods, which were accordingly dispensed with and Patent No. 314,459 taken.

It will thus be seen that Mr. McCarty's labor and experience in this particular direction extended from 1880 until the latter part of 1882, when his invention was reduced to a practical form; drawings and models were made, and a caveat filed in the Patent Office on September 30th of the same year.

Circumstances Connecting Defendant with these Inventions.

In the following month of October circumstances occurred in connection with Mr. John S. Lentz, the master car builder of the defendant company, which presumptively led to the adoption of the invention of Mr. McCarty by defendant. These circumstances are too similar and identical to be the result of coincidence or accident. In October, of 1882, a convention, known as the Convention of the Master Car Builders' Association, was held at Niagara Falls; Mr. McCarty's model was exhibited at this convention and examined by the master car builders of the country, among them being Mr. Lentz, the master car builder of the Lehigh Valley Railroad Company, the defendant in this case. Mr. Lentz in his testimony admits that soon after he was placed in charge of the car equipment of the defendant company he realized the fact *that the wooden truck bolsters used under their cars of 40,000 pound capacity were not sufficiently strong to carry the load.* He then suggested to Mr. Montz, who was the superintendent in charge of the shops, that it was important that something should be done in the matter, and he alleges that in September, 1882, a pair of trucks was built at the Packerton shop with the bolsters as shown in Mr. Montz's patent, 291,382, but without truss rods; but the drawings therefor are *dated April 27, 1883.* (Transcript of Record, p. 124.) He admits that in October of the same year he attended the convention at Niagara, met Mr. McCarty, saw a blue print or model, or perhaps both, of a truck similar to the one Mr. Montz had designed. The idea or identical construction shown in Mr. McCarty's patent, No. 339,913, is shown in the patent granted to William H. Montz, on January 1, 1884, the application of which was filed on *September 10, 1883.* The application of Mr. McCarthy's Patent 339,913, showing substantially the same invention as Montz's, was filed *August 31, 1883.* After the Montz patent with this claim was granted, which seemingly was an error on the part of the Patent Office,

an *interference* was declared between Mr. McCarty and Mr. Montz on December 11, 1885. Mr. Montz filed a preliminary statement in which he declared that he conceived the invention of the car truck bolster therein shown on the 25th of July, 1882, and upon that date made sketches and explained it to others (defendants fail to produce these sketches) and that on the 14th of September an experimental truck containing said bolster was completed under his instructions, which was put into practical use and tested until the 17th of April, 1883. Mr. McCarty in his preliminary statement says that he conceived the invention in June, 1881, made sketches in June, 1881, and a model in July, 1882, and that he filed a caveat in September, 1882, and applied for his patent in August, 1883. All of which dates were prior to the Lentz and Montz dates. Priority of invention was awarded to Mr. McCarty February 24, 1886, in accordance with rules of the Patent Office, as neither party took testimony.

While it is true that the interference in question was limited to the bolster composed of bars connected together at their ends, and having their centres united and held in relative vertical positions by means of posts or pillars in *combination with truss rods*, yet it is submitted that the drawings and specifications of both the Montz and McCarty patents show the substantial invention in controversy without the truss rods, which, it is claimed on behalf of complainants, is substantially the valuable invention in controversy adopted by the defendants.

The defendant company must be equitably regarded a party to this interference, as there is evidence tending to show that in the conduct of the interference by Mr. Montz, until after his preliminary statement was filed therein, he was acting under the instructions of the defendant.

The facts upon which this conclusion may be drawn are :

1. That he was then the superintendent in charge of the defendant's shops, and if a pair of trucks was built at

the Packerton shops of defendant in September, 1882, without truss rods with the bolsters, as shown in the Montz Patent, No. 291,382, it was done at defendant's expense. (Montz Evidence, Transcript of Record, p. 126; Lentz Evidence, Transcript of Record, pp. 119, 124.)

After the interference had progressed to the point of filling the preliminary statements, Mr. Montz says that he did not proceed any further with it, because he *had no orders from his superior officers of the road* (Transcript of Record, p. 132), meaning, unquestionably, by this the officers of the defendant company.

If the defendant company assumed the burden of defending the interference proceeding as equitably interested in the Montz patent, or as licensee of Montz under the said patent, they are estopped from denying that McCarty was the first inventor over Montz of the invention involved in the interference. It needs no citation of authorities to establish this point. It has been held by this Court that parties are bound by interference proceedings, unless new evidence not accessible at the time of the interference is produced before the Court trying the question of priority; and it is familiar law that one not named as a party, who contributes to the prosecution or defence of a cause, and has an interest in the benefits to be derived therefrom, is also bound by the results equally with the principal.

We do not understand, however, that there is any controversy over the question of priority between Montz and McCarty. The result of the interference unquestionably establishes the McCarty patent as the prior patent, and renders the Montz patent nugatory as an anticipation.

The invention was disclosed to defendant's agents.

This is admitted, and the burden of proof is upon it to show that it did not use it in pursuance of such disclosure.

The testimony shows, and the facts are not disputed, that shortly after the convention at Niagara Falls, on October 17, 1882, Mr. Lentz wrote an official letter on behalf of the Lehigh Valley Railroad Company, requesting Mr.

McCarty to send a blue-print of his truck as shown him while at Niagara Falls the week prior. Under date of October 24, 1882, a blue-print was sent to Mr. Lentz which was exactly the same as the drawing annexed to patent 339,913. (See Exhibits, Record pp. 64–5.) From this period of time the Lehigh Valley Railroad Company, through Mr. Lentz, seems to have adopted the invention in controversy, and it has been adopted as the standard bolster of the trucks in use on the cars of that road. And while the fact is not in evidence, it is confidently believed that the defendant will not deny that at least 15,000 cars have been constructed with the invention in question. It is in evidence, however, on page 15 of Complainants' Record, that during the year 1888, 2500 new cars were built by the Lehigh Valley Railroad Company, which are presumed to contain the improved bolster as shown by copy of the *Railroad Gazette* of June 8, 1888, pages 362–3.

Another of the peculiar circumstances attending the adoption of the invention in question by the Lehigh Valley Railroad Company is the absolute and identical similarity of the blue prints produced by the defendant as the working drawings of the trucks used by them. From the dates shown on these blue prints and all the evidence in the case it appears beyond question of doubt that these blue prints, as working drawings, were prepared by Mr. Lentz and Mr. Montz subsequent to the convention at Niagara Falls and subsequent to the communication and correspondence which took place between Mr. McCarty and Mr. Lentz during which Mr. McCarty produced his drawings and patents for their inspection.

Mr. McCarty, in his testimony on page 20 of Complainants' Record, referring to the blue prints produced by the defendant, says :

" Referring to Patent 339,913, Claim 3, and to drawing marked ' Standard Truck Packerton Shops,' John S. Lentz, M. C. B., 4–27–'83,' the bolster or lower bar in Claim 3 G on No. 339,913, is identical to the lower bar on the blue print which I now mark with letter G in red lead

pencil, in combination with the arched upper bar F, having its ends bearing against said flanges. The guide plates P are the same as I have marked letter P in blue print bolted to the ends of said bars under the same. The stops or blocks M are substantially the same as those marked M on the blue print inserted between the bars F and G near their ends; and the pillars H are the same as those marked H on the blue print, also interposed between the same bars, as stated. The upper bolster of the truck, composed of the bent bar F, and bar G and interposed columns, as marked on the blue print, in combination with the plates P, as marked on the blue print, secured beneath the bars F and G, as marked on the blue print, at their ends, and notched or grooved on their sides to receive the columns B, as marked on the blue print.

"In the Patent No. 314,459, in a car truck, a bolster consisting of upper and lower bars, as marked on blue prints F and G (this applying both to blue prints marked in red pencil on their face No. 1 and No. 2), supporting angle irons, which on blue print No. 2 is substantially the same as posts or pillars or columns ordinarily termed in car construction, marked in both No. 1 and No. 2 H. I will also embrace under the head of these supporting angle irons the pillars, columns or blocks M, and also M on No. 1 and No. 2, being in either case parallel to the upper and lower bars and bolted thereto substantially as and for the purposes set forth. Also, on No. 2 the end caps or casting P, as marked P on No. 1 and No. 2, being substantially that as set forth and shown in Patent 314,459. Plan No. 3 being a plan of No. 2, the parts referring to No. 2 are the same.

The Substantial Nature of the Inventions and Scope of the Claims, and, herein, their Novelty.

Under this head is comprehended practically all the assignments of error.

The State of the Art.

It is conceded, and it is unquestionably the law, that all patents must be read and interpreted in the light of the taste of the art. Inasmuch as the United States has caused

a scrutiny to be made of the state of the art, and has only granted the patents in consequence of and after such scrutiny, it is to be presumed that they are for patentable inventions, and the burden of proof is upon him who asserts the contrary.

The defence in this cause has made that attack, and it is to be presumed that they have used all the efforts within their power to make that attack effectual and to demonstrate the invalidity of the patents in question. The complainant has also introduced several patents in connection with the evidence of complainant's expert, Whittlesey, the evidence upon both sides constituting the state of the art as shown by the record in the case.

Cars are universally constructed so as to ride upon two four-wheel trucks. Owing to inequalities and curvatures in the track, especially on reverse curves, such as those from main tracks to switches and sidings, these trucks must be swiveled so that each truck can conform to a tangential line of the curve upon which it happens to stand, regardless of the direction of the axis of the car body. This swiveling requires that there shall be centre or turning plates, and king bolts around which this swiveling takes place. It is obvious that side supports must also be furnished, or the car would not be stable upon the trucks, but would tend to upset. This requires friction plates, so called, upon either side of the trucks, which, acting conjointly with corresponding friction plates on the cars, retain them in an upright position upon the centre plates upon which they swivel. Inasmuch as the swiveling of the truck was caused entirely by the resistance against the wheel flanges, due to the curvature of the track, it is obvious that it is desirable that the swiveling be done as easily as possible, otherwise the frictional resistance against the track will be very much increased. To secure this result, the weight must be practically entirely carried upon the centre plates, leaving as little weight as possible, and that due to oscillations, upon the friction plates. Thus, the trucks adjust them-

selves automatically to the direction of the track; but, if these conditions are not fully secured, the resistance at times to the swiveling, by virtue of the friction of the flanges against the rails in a long train, becomes something very great, thus reducing the hauling power of the locomotive. (McCarty, Record, p. 21.)

The wooden bolster failed because it had all of the defects of a composite wood and iron structure, when subjected to great strains.

While patents were shown which described iron bolsters floating on springs in truck frames, as Thurston & Ledyard, No. 47,880, May 23, 1865; Thielson, No. 90,795, June 1, 1869, and Simonds, No. 252,531, January 17, 1882, yet there is absolutely no evidence that any of them went into practical use, and the defendant cannot say that the McCarty truck did not possess advantages over all of these, because it has used substantially the McCarty truck in preference to all others which were open to it to use, especially the Thurston & Ledyard or the Thielson truck, as both patents had already expired.

Again, the Pennsylvania Railroad recognized its advantages, took a license, and put it into extensive use.

This is conclusive evidence that the McCarty truck, with its peculiar bolster, did possess advantages over all that preceded it, and very persuasive evidence that it involved invention.

In what did this improvement consist?

In the former patents we find substantially the same "diamond" truck frame in which the wheels were journalled: Thurston & Ledyard, Thielsen, Simonds, Dripps, McCoy & Dean, all of record, show such form of truck; hence, the improvement was not in the truck frame; they also show the side frames centrally ~~located~~ connected by cross ties, in the main of similar construction. It is quite clear, therefore, that the improvement did not reside in the truck frames themselves; *it therefore must have been in the bolster and the manner of its connection.*

In devising the truck, great regard must be had to ease of repairs. Where trucks are held together by bolts and standards, as in the diamond form, it is evident that, if distorted or broken, a very little work is necessary to either replace a broken part or to reshape the bent bars, and, by screwing up the bolts, replace them.

In such trucks an upper bolster must be placed, which must be absolutely rigid, because this bolster receives the weight of the car upon the centre plate, as hereinbefore stated, and it must also carry friction plates, the relative planes of which must be rigidly kept constant with reference to the centre plate. Various efforts have been made to secure such rigidity in a bolster, and they probably have succeeded, but at the expense of making a very expensive structure to build, and a doubly expensive one to repair, like the riveted-up bolster of Thurston & Ledyard, and of Thielsen.

The bolster also receives thrusts from the car, as will be observed by any one who will take the pains to notice. The coupling-up of freight trains, or their starting and stopping, the longitudinal shocks transmitted to the car are transmitted through this bolster by means of the turning plates and the king bolt, to a car truck which weighs thousands of pounds. These strains tend to overturn the bolster upon its seat, and also tend to distort it, and hence it must be constructed to resist them. Owing to all of these requirements and conditions, and the ease with which it could be repaired or replaced, the wooden bolster was found to be sufficient under light loads, especially when trussed, as shown in the Roberts' patent; but, as is shown by the proof, and as already intimated, the composite structure of wood and iron would not stand the heavy strain incident to doubling and even trebling the former load, as is now done upon modern freight cars. (See Statement in the Montz Specification, Record, pp. 110, 111.)

It is in the consideration of such details that a layman can dimly perceive the great multiplicity of conditions

which necessarily exist, and the great difficulty of devising the best form to meet them all in actual use.

And, in this connection, we would respectfully suggest to this Honorable Court that, in the consideration of cases of this character, one of the greatest difficulties that is experieneed in determining the relative value of mechanical structures and organisms is that of giving adequate consideration to each of the enormous number of apparently small and insignificant circumstances which enter into and oftimes absolutely govern the mode of operation. Structures that are apparently almost exactly similar will ofttimes show the widest divergence in practical use. One will fail, and another will succeed, and yet to a layman they are apparently alike. Why the failure and success is only apparent to those who have had long practical experience in the multitudinous details and circumstances under which they are put into operation. These things are seldom adequately shown in a record, or, if they are shown, their relative importance is ofttimes distorted. Really trivial things are magnified, and really important ones obscured, and thus the decision of the whole question is reduced largely to that of a guess.

In this case it is impossible for the Court to have the full and accurate knowledge that a master builder or superintendent of motive power of a railroad car would have, as to why the McCarty truck adopted by the Pennsylvania Railroad, and, as we claim, adopted by the Lehigh Valley Railroad, was superior to all those preceding it. There must have been good reasons, or it would not have been produced. We have hereinbefore suggested some of the reasons, and will, in the further consideration of the defense as based upon the body bolster and Naugatuck truck, add some further reasons. But we do desire to impress upon the Court the fact that it is practically impossible to get into any record so that the Court can completely understand all of the conditions and their relative importance involved in the construction, adaptability and mode of operation of

any structure in so complicated a matter as a railroad. We respectfully submit that any doubts upon this point as to the question of invention should be given to the man who has shown and furnished to the railroad companies a successful device, and which has replaced those which had previously failed to meet the necessary requirements. In reality it is not for the patentee in this case to show why his truck has succeeded, but the burden is upon the defense, if they claim that others anticipate the invention, to show why they did not succeed, and that the want of success was not due to any inherent inability to meet the conditions of the service. We cannot be too emphatic in casting, in this respect, the burden of proof upon the defendant.

The Nature and scope of the McCarty Inventions as Tested by the Specification and Claims.

This will be limited to the claims in controversy.

We have heretofore discussed in a general way, and then shown conclusively, that there was actual merit and extremely probable invention in what McCarty did. There only remains the consideration of whether he has adequately secured an invention by an appropriate specification and co-extensive claims, and herein there is involved the necessity of determining the breadth and scope of such claims.

These claims are the 2d and 3d of Patent No. 314,459 and 3d and 4th of Patent No. 339,913.

The 2d claim of 314,459 is as follows:

"2. In a car-truck, a bolster consisting of upper and lower bars and supporting angle-irons between the bars, said angle-irons being parallel to said upper and lower bars and bolted thereto through their flanges, substantially as and for the purpose set forth." (Record, p. 96.)

The first intimation of the elements of this claim are in the words, "In a car-truck." Turning to the specification,

we find the car-truck described is one in which the bolster is a "floating bolster," that is, a bolster not rigidly attached to the truck frame, as is illustrated in the Naugatuck truck, but which is only connected to the truck frame by means of guides at either end of the bolster, by means of which it which it is comparatively free to move vertically and torsonally, being supported at those points upon springs located between it and the lower bolster which is a fixed connecting bar holding the two side frames relatively in position. We think the fair construction of the claim would mean that the car truck is an element thereof in the sense that it is such a bolster, constructed substantially as described in the claim, combined with and operating in such a car-truck.

The 3d claim reads as follows:

"3. The upper bolster-bar, D,' having horizontal ends, in combination with the lower bolster-bar, D,' having its ends extended beyond the ends of the bar D,' and folded back against them, these two bars composing the whole bolster, substantially as shown." (Record, p. 96.)

Although the words, "in a car-truck," are omitted, yet it is perfectly evident that the bolster therein described is intended for, and does not comprise any other bolster than the one which is used as a floating bolster in a car-truck of the kind described in the specification.

Claim 3d of McCarty patent, No. 339,913, reads as follows:

"3. The lower bar G, having flanges Q, turned up on its ends, in combination with the arched upper bar F, having its ends bearing against said flanges, the guide plates P, bolted to the ends of said bars under the same, the stops or blocks M, inserted between bars F and G, near their ends and the pillars H, also interposed between said bars as stated."

The specification of this patent describes a diamond-framed car-truck in which the particular bolster referred to in the claim is an element, and operates as a floating bolster

exactly the same as in 314,459. The fair interpretation of the claim would seem to us to be that it was limited to such a bolster as therein described, operating as a floating bolster combined with a truck substantially permitting the employment of such a bolster as a floating bolster.

The 4th claim of 339,913 reads as follows:

"4. The upper bolster composed of the bent bar F, straight bar G, and interposed colums M, in combination with the plates P, secured beneath the bars F, G, at their ends and notched or grooved on their sides at *a*, to receive the columns B, of the side irons, substantially as and for the purpose set forth." (Record, p. 101.)

The same observation will apply to this claim, and, further, that the employment as a floating bolster in a truck of the kind described, is expressly indicated by the fact that the claims require that guide plates shall be bolted to the ends of the bars constituting the bolster, and shall be so notched or grooved as to permit the reception of the columns of the side irons of the diamond frames of the truck described. We think, therefore, the fair interpretation of this claim is that it should be expanded in its number of elements to include those required for an operative combination, and this would require the addition not only of the side irons of the side frames as guides, but the side frames and all the other operative portions of the mechanism constituting the making up of a car-truck, with its wheel journals, all to enable it to operate in the manner described in the specification.

In the case of *Wicke* vs. *Ostrum*, decided by this Court a few years ago, and reported in 103 U. S., p. 461, in which the subject matter of the cause was a patent on a nailing machine, the claims therein were very similar to those used here. They only specifically enumerated as elements of the combination certain portions of the mechanism which, of themselves, would have been useless for any practical purpose, but in which resided the peculiar features distinct-

ive of the invention. In regard to the construction of the claim, this Court held that:

"When the arrangement of the machine is such that the combination of all the several elements or their mechanical equivalents was necessary to its successful operation that a claim to a limited number of elements should fairly be construed to include the rest."

It is perfectly obvious that the claims of the McCarty patents, and especially of the third and fourth claims of 339,913, would not of themselves make a combination that of itself will be of any use, or be practically operative for any purpose whatever, and that, therefore, they being claims to a limited number of elements in a machine in which the combination is such that all of the elements are necessary to their successful operation, the elements not named should fairly be implied as added to those particularly specified, and the claim construed to be for a combination accordingly.

Some stress has been laid upon the question as to whether or not the fourth claim was for the same elements as the third claim, or whether it described an operative combination.

It obviously is a broader claim than the third, for the reason that it does not require that the lower bar G should have flanges *turned up on its lower ends*, nor does it *require* the "pillars H" to be interposed between the bars. Upon the principle of *Wicke* vs. *Ostrum* pillars between the bars being shown in the specification, they might be implied in the claim, if it became an absolute necessity to have them in order to make an operative structure; but this obviously depends on the weight and strength of the upper bar F, and the distance longitudinally of the bolster between the supporting blocks M, it evidently being in the mind of the inventor that the invention might be evaded by either not using the upturned ends of the lower bar or the pillars H of the third claim, and he intended to secure himself against such an evasion by claiming a combination which could be

made to be operative, provided the proper sizes and weights and distribution of the metal were had, and that he intended to limit himself in this claim only to those essential features which would make such a bolster operative in such a truck.

The addition of the pillars H to the combination of the fourth claim would not destroy that combination; but, in view of the other claims and the description of the patent, it would be an obvious expedient, nor would the employment of the upturned ends of the lower bar change the combination of the fourth claim, but would be a modification in the nature of an addition to the elements therein specified.

Returning to the second claim of 314,459, the floating bolster therein described and claimed has specific angle-irons, located parallel to the upper and lower bars, and bolted thereto through their flanges, and, in this sense, this arrangement of the angle-irons is a limitation, although, as was well stated by the complainant's expert Whittlesy, it would not necesarily result in so extreme a limitation in the combination as that the exact form of angle-irons described must be used in order to employ it. (Whittlesy, Record, p. 85.)

This view will be considered further under the head of "Infringement," as will also the limitation of folding back the ends of the lower bar, as specified in the third claim of the said patent.

With this understanding as to the nature and scope of the claims in question, their elements express and implied, and the mode of operation thereof when combined as stated, we are prepared to discuss the question of

Anticipation.

The first point is that of considering the *nature* of the so-called *body*-bolster or transom, which was nothing but a truss adapted to be placed across the bottom of a car as the

sill to which was attached the centre turning plate. This transom, so-called, was in principle of construction a rigid portion of the car body. It supported, and in turn was supported by, the floor timbers, arranged at its ends, and also crossing it at several points between the ends. It served to carry the turning plate and the two friction plates, but otherwise performed no functions, notwithstanding its similarity of appearance to the bolster of the McCarty patents or the bolster of Montz patent, or the bolsters of the defendants in either the Exhibits 1 or 2. *This transom, however, is not proven to have been in existence prior to the conception of McCarty's invention.* He says (Record, p. 14), that

"On through 1880, I was constantly engaged endeavoring to design a bolster to embody all requirements in the way of strength, as well as a form simple and inexpensive to manufacture, and also readily restored to its proper form in case of damages, which was one of the essential features in the maintenance of the car equipment of the country. During this year, 1880, I had a bolster made consisting of two iron plates and three pieces of timber, arranged as per cross-section, as follows: The five pieces being held in position by bolts, as shown in the following diagram, now produced, and marked 'Exhibit, Complainant's Diagram, No. 11.' This, however, did not meet all the requirements, and after a trial for some months during this year, 1880, from the results of same, I conceived the idea of using two iron plates, without the use of wood or timber, formed to effect a very strong bolster, without the disadvantages found in the use of wood in connection with iron plates. The form first suggesting itself at that time was the same as shown in Patent 339,913."

In the interference it appears that he conceived the invention, and *made sketches thereof* in June, 1881.

The testimony with reference to the transom depends solely upon Mr. Montz. (Record, pp. 26, 27.) He says that in February, 1882, he constructed a flat-bottomed car with an iron transom in the body, and that he thought then it could be used in a truck; that the transom was not then

new; that he had seen it in other companys' cars. He does not state *when* nor *where* he saw it. It appears to have been described in the Car Builders' Dictionary, published some time in 1881. This was objected to, because it had not been set up in the answer as anticipating, and evidently there is no proof that the book was published until *after* McCarty had devised his bolster. Montz then identifies the model, which is offered in evidence and marked "Defendant's Exhibit, Old Metal Transom."

This was substantially all of the testimony in regard to the existence of this transom.

The second anticipating device, and the only one worth of consideration, in view of the opinion of the Court below, is the "Naugatuck" truck, a model of which appears to be in evidence, and also two photographs of a truck, which apparently is a working truck taken from underneath a freight car.

The first thing which strikes the observer as being peculiar to this Naugatuck truck is the fact that the so-called bolster is actually the element rigidly connecting the side frames of the truck, and that either end thereof is *rigidly fastened* to those side frames which carry the car wheels. An attempt is made to meet the McCarty bolster by this Naugatuck truck, simply by saying that the guides of the Naugatruck truck are *over the wheels* at the journals. This is described in the opinion upon page 157 of Record. It is very clearly shown in one of the figures, and also appears in the model. It is perfectly obvious that this construction develops in the truck, whenever the wheels are placed upon an uneven foundation, a tendency to twist the so-called bolster, and this tendency would be very much exaggerated, and become quite destructive of the integrity of the truss upon the car being derailed. It will be observed that this truss is made up by inserting columns through which pass bolts, and that the whole is held together by the nuts engaging the threads upon the ends of the bolts. As a chain is only as strong as its weakest

link, so this Naugatuck truck is only as strong as its weakest point. If, therefore, a truss of the kind in question, as shown in the truck, could be placed in a position where no torsional strains were exerted upon it, the construction might be sufficient, and, as proved by the McCarty truck, would be sufficient for all practical purposes, and yet admit of readiness of repair. But when placed under the circumstances as in this anticipating truck, the torsional strains infallibly throw an immense leverage upon the threads of the bolts, and this, combined with the shakes and jars and universal vibration developed by moving trains, is sure to either loosen the nuts or strip the threads, and the consequence is that the truck soon becomes loose, if it does not fail entirely. This is why the large number that were originally put into use on the Old Colony Railroad have practically gone out of existence, and why a truck with that sort of truss rigidly built into it will never prove generally successful in railroad practice.

If we consider that all that McCarty did was to take this truss and place it in a diamond truck as a "floating" bolster, he did something which, in view of its success as such a bolster in such a combination, was not only not obvious, but which must have been contrary to all the experience of those handling the Naugatuck truck. The natural result of that experience would have been an opinion that such a truss would not be successful in any railroad truck, but it has upon trial been found to be very successful, a success entirely due to its *new relation in a new combination*, mayhap made up of old elements, but which combination has been attended by a new and useful result.

It cannot be said, either, that it was obvious for the further reason that it did not occur to any one before McCarty, notwithstanding that trucks of the Naugatuck character were running for years.

As was said in *Webster Loom Co.* vs. *Higgins*, 105 U. S., 591, by his honor, the late Justice BRADLEY:

"This argument would be sound if the combination claimed by Webster was an obvious one for attaining the advantages proposed,—one which would occur to any mechanic skilled in the art. But it is plain from the evidence, and from the very fact that it was not sooner adopted, that it did not, for years, occur in this light to even the most skilled person. It may have been under their very eyes, they may have been said to have stumbled over it; but they certainly failed to see it, to estimate its value, and to bring it into notice. At this point we are constrained to say that we cannot yield our assent to the argument, that the combination of the different parts or elements attaining the object in view was so obvious as to merit no title to invention. Now that it has succeeded it may seem very plain to any one that he could have done as well. This is often the case with inventions of the greatest merit. It may be laid down as a general rule that if a new combination and arrangement of known elements produce new and beneficial resuits, never attained before, it is evidence of invention."

Keystone Co. vs. Adams 14 Sup. Ct. R. 295

DuBois vs. Kirk 15 Sup. Ct. R. 729

These observations will apply with great force to these patents, as they are substantially parallel to that in the case cited. In that case, what Webster did was to take an old device from one mechanism, and combine it with an old device in another mechanism, with the result of increasing the product of the loom. The same principle was followed in *Western Electric Co.* vs. *LaRue*, 139 U. S., 601, where an old torsional spring was transferred and placed in the sunder or key of a telegraphic instrument, with the result of cheapening the device, rendering it less liable to get out of order, and reducing the number of elements. A still further test of anticipation has been laid down by this Court in the case of *Knapp* vs. *Morss*, 14 Sup. Court Reporter, 81, and that is, that what would infringe if later than the patent in question, would anticipate it if earlier.

Having in mind the proper construction of the McCarty claims, it is impossible to see that the bolster of the Naugatuck truck in its combination therein, if later than McCarty's patent, could possibly infringe any of his claims.

It does not claim all of the elements therein, is not adapted to be guided between guides, floated on springs, and carry the weight free from torsional and other strains of like character upon springs. We therefore submit that the record discloses no anticipation of the claims of the McCarty patents, even though certain features claimed therein are old, and even though the separate elements are found in several different patents or structures existing prior to his invention. It is the most common of all defenses to say that a combination is old, because the several elements are old, and this defense has been sufficiently characterized and the principle denied, so that a citation of authorities is unnecessary.

Infringement.

The second claim of patent 314,459 we claim to be infringed by defendant's trucks, as it contains every element specified therein in the exact form, as described in the specification, except the angle-irons, parallel to said upper and lower bars and bolted thereto through their flanges, and of this element we claim the infringing device has the equivalent. There is no reason given in the specification of the McCarty patent in question why the angle-irons described shall be integral throughout their whole extent. Their centres might be cut out without in any wise modifying or destroying the office which they perform, which is that of uniting and sustaining the upper and lower bars in their relative position. The infringing trucks have four standards arranged in a rectangle, the longest way of which is parallel to the line of the truss bars. The upper part of these pedestals or standards is extended along between them in a line with the bars so as to support the edge of the upper bar in the line of the bar itself. This would perform exactly the same office as the angle-iron described. The bolts pass through the pedestals just the same as they

would through the angle-irons, the only difference being that the pedestals are not cut out so as to leave the central portion of the bolts exposed. Mr. Whittlesy states that blocks, through which the bolts pass, would be the equivalent of the angle-irons, simply because they would contain a filling of surplus material, and thus become blocks.

The second claim of 314,459 is infringed because the trucks of the defendant contain an upper bolster bar having horizontal ends, in combination with the lower bolster bar, although the exact form of the extension of the lower bolster bar, beyond the ends of the upper bar, and then folding it back against them, is not employed. Instead of this, the upper and lower bars of defendant's truck are welded together substantially throughout their horizontal extensions. It is obvious from this that exactly the same thing is done as would be secured by folding the end of this lower bar back upon itself, that result being the obtaining a resistance abutment against the thrusts of the ends of the upper bar. It is unnecessary to say that these are floating bolsters used in trucks, and therefore all the other elements which are otherwise employed are employed by the defendant.

The defendant infringes the third claim of 339,913, as he has the lower bar, the arched upper bar, with the lower and upper bars welded together in the manner as is shown by the detached bolster or Defendant's Exhibit , and thus he employs substantially the same means to obtain exactly the same results. He employs not even an equivalent of the guide plates P, but substantially the same thing —the only difference being that his guide plates are cast so as to form a recess partly enclosing the ends of the upper and lower bars, the edge of the guide plate being raised around the edges of the bars. Yet is none the less a guide plate bolted to said bars and under the same. It has the stops or blocks M inserted between the bars near their ends, and the pillars H interposed between the bars near the centre in practically the exact form shown in the

McCarty patent. Defendant also has all of the implied elements of the claim, as the bolster is a floating bolster operating between guides in a diamond truck.

Defendant infringes the *fourth claim* beyond the possibility of a doubt. In truck No. 1 he has the exact form of the bent upper bar, and the straight lower bar, and if the words "bent" and "straight" are to be considered as words of description, indicating a central separation between the upper and lower bars to form a truss, and which we submit is the proper interpretation, he has also the interposed columns M near the junction of the two bars at either end; he has the plate P secured to each end beneath the bars, notched or grooved at its sides to receive the columns B of the side-irons of the truck. Whether the pillars H are to be employed, or whether they are unnecessary in the combination, is immaterial. The addition of those pillars by the defendant would render his use of the combination none the less an infringement. He also uses the implied elements as well as in the apparatus of the third claim, by the combination of a floating bolster in a diamond truck, exactly as does the complainant in his patent.

We respectfully submit that the decree in the Court below should be reversed, and the Patent sustained.

JEROME CARTY,
R. A. PARKER,
Of Counsel.

Office Supreme Court, U. S.
FILED.
NOV 12 1895
JAMES H. McKENNEY,
CLERK.

Supreme Court of the United States.

OCTOBER TERM, 1895.

HARRY C. McCARTY AND JOHN F. BICKEL,
APPELLANTS,
vs.
THE LEHIGH VALLEY RAILROAD COMPANY,
APPELLEE.

No. 9.

Brief of Argument for Appellee.

ROBERT J. FISHER,
For Appellee.

WASHINGTON, D. C.:
GIBSON BROS., PRINTERS AND BOOKBINDERS.
1895.

IN THE

Supreme Court of the United States.

OCTOBER TERM, 1895.

HARRY C. McCARTY AND JOHN F. BICKEL,
APPELLANTS,
v.
THE LEHIGH VALLEY RAILROAD COMPANY,
APPELLEE.

No. 9.

Appeal from the Circuit Court of the United States for the Eastern District of Pennsylvania.

Brief for Appellee.

STATEMENT OF THE CASE.

This is a suit in equity brought in the circuit court of the United States for the eastern district of Pennsylvania by Harry C. McCarty and John F. Bickel, appellants, against The Lehigh Valley Railroad Company, the appellee, for the alleged infringement of two patents granted to said McCarty, and to said Bickel as assignee of one-half interest therein, No. 314,459, March 24, 1885, and No.

339,913, April 13, 1886, for improvements in Railway Car Trucks.

The bill exhibited in the court below contained the usual allegations of invention, grant of patent, title, and infringement, and the usual prayer for injunction and accounting. The answer denied the validity of the patents and the fact of infringement, and the defence was based upon these grounds.

The case was duly heard upon bill, answer, and proofs, and it was held by the court that the patents were invalid for want of invention, and a decree was entered dismissing the bill. (Record, pp. 156–159.)

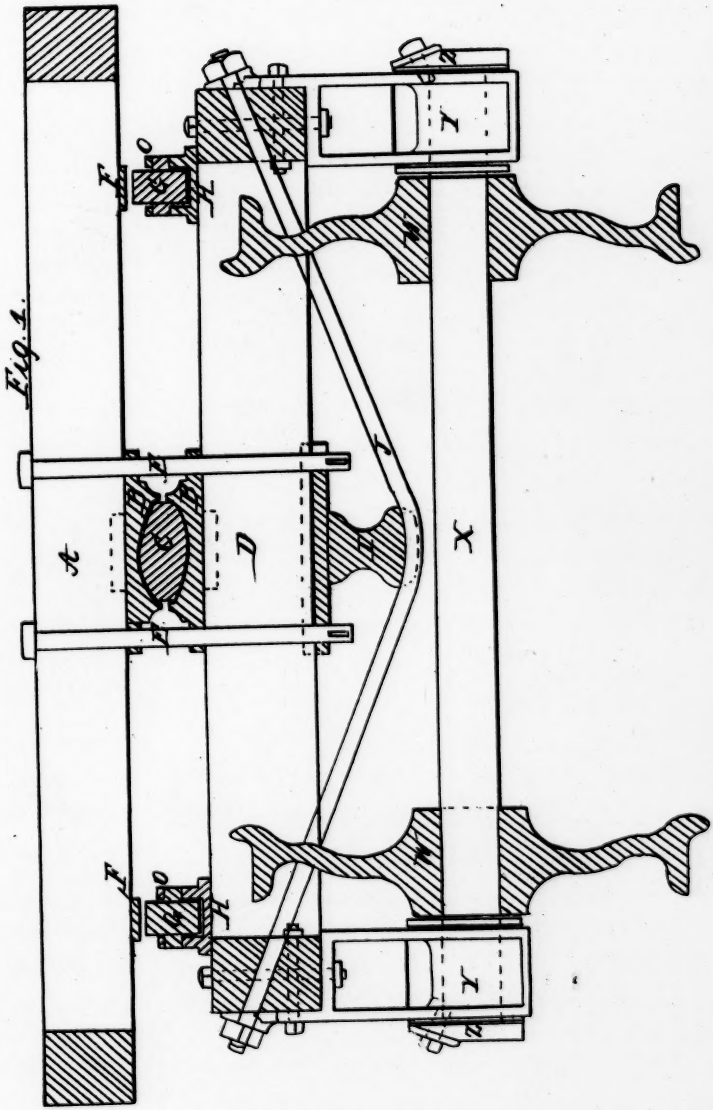
From this decision the complainants appealed to this court.

ARGUMENT.

State of the Art.

For many years and long before any date which can be given to McCarty and Bickel for the alleged invention of the subject-matter of their patents the bodies of freight cars have been supported upon their trucks by means of devices called bolsters. One of these devices is attached to the bottom of the car body and is called a body bolster. The other is attached to the truck and is called a truck bolster.

The body bolster rests upon the truck bolster, and at the point of contact there is a device, called a centre bearing plate, which, acting in connection with a pivot bolt, permits the truck to move transversely with reference to the car body so as to pass around curves and conform to the various changes of direction in the track. These devices perform practically the same function as the fifth-wheel and king-bolt of a wagon.



THE ROBERTS PATENT.



Fig. 1

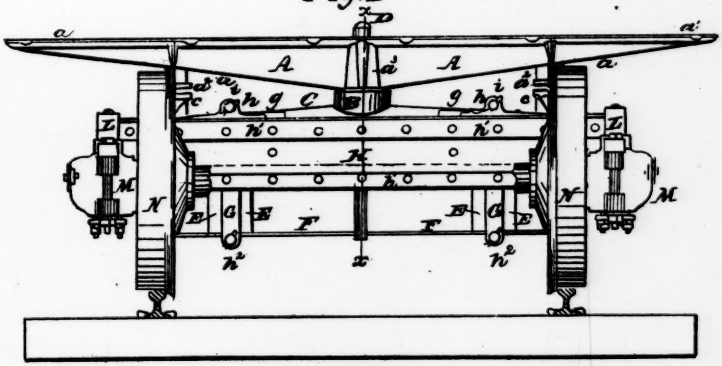
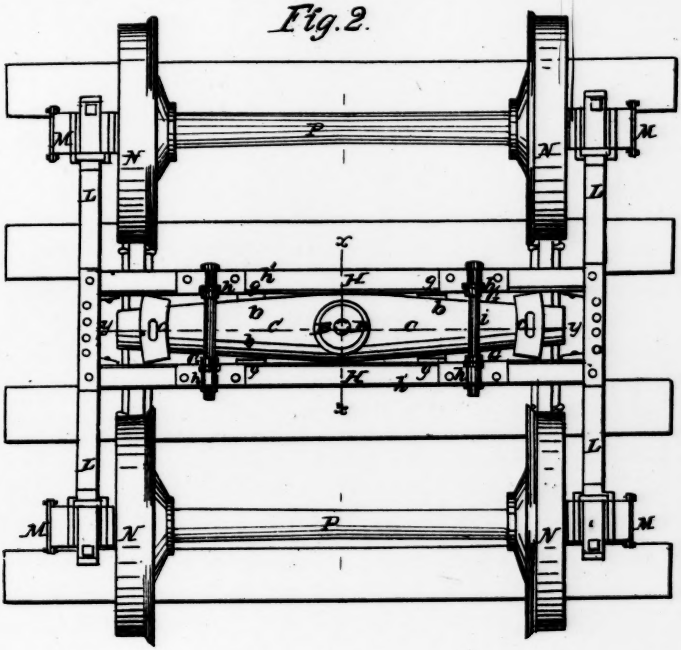


Fig. 2.



THE THEILSEN PATENT, SHEET 1.

Fig. 3.

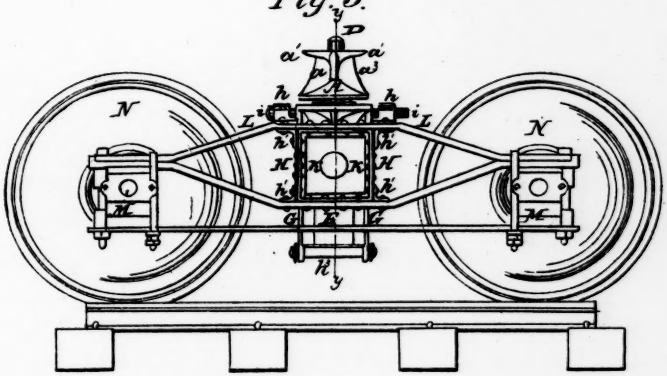


Fig. 4.

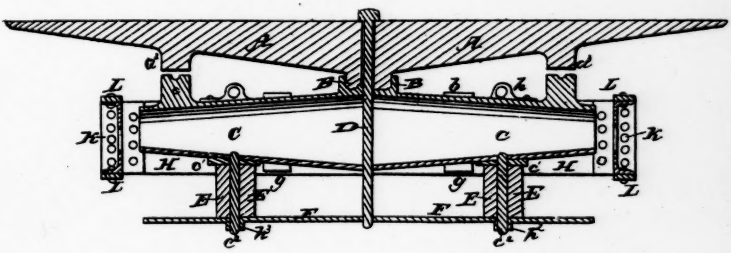


Fig. 5

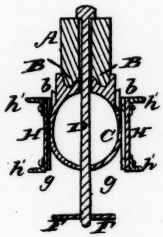


Fig. 6.

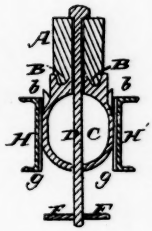


Fig. 7.

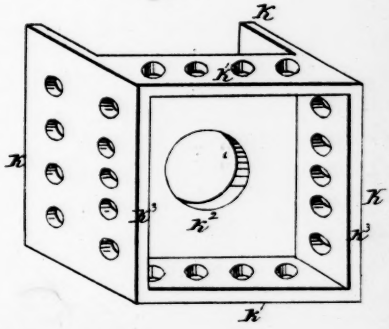


Fig. 1.

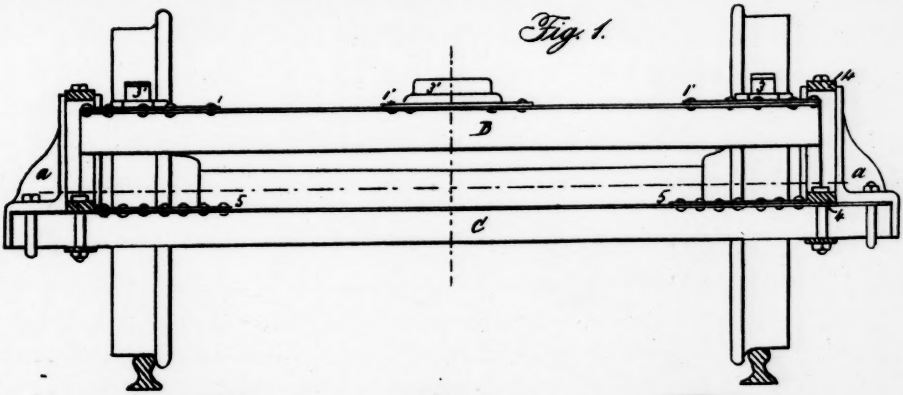


Fig. 2.

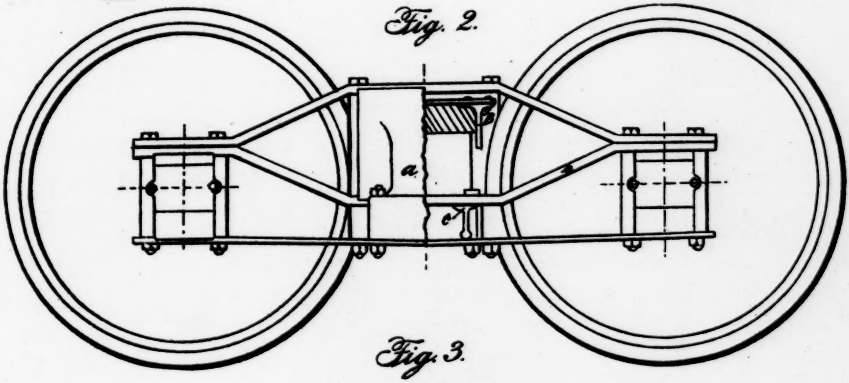


Fig. 3.

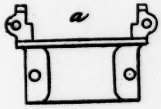


Fig. 4.

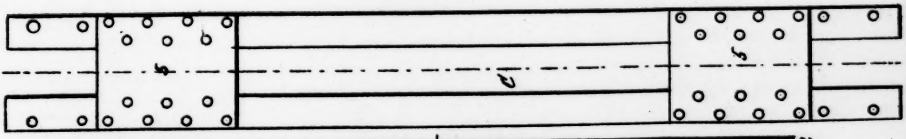
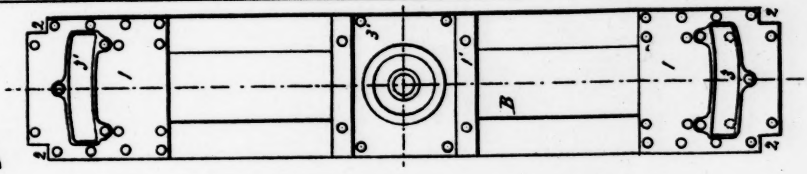


Fig. 5.



THE THURSTON & LEDYARD PATENT.

Each one of the bolsters is provided near its extremities with devices, called side bearings, which act to limit the sidewise rolling or rocking of the car body. Ordinarily these bearings do not sustain the weight of the car but a little space is left between them so that the truck can turn freely upon the centre bearing plate.

This general arrangement is shown in patent to Roberts, No. 25,139, August 16, 1859 (Record, p. 111), and in Thielsen, No. 90,795, June 1, 1869 (Record, p. 114).

In the Roberts patent the part marked A is the body bolster; the part marked D, the truck bolster; the part marked B, C, the centre bearing plates and pivot; the part marked F, the body bolster side bearing; the part marked G, H, O, the truck bolster side bearing.

In Thielsen the part marked A is the body bolster; the part marked C, the truck bolster; the part marked B, the centre bearing plate; the part marked D, the pivot bolt; and the parts marked respectively a^2 and c, the body and truck bolster side bearings.

With respect to the truck, the truck bolster has been arranged in two general ways. In one it is rigid with the truck frame, as shown in the Roberts patent, and in the other it is vertically movable with reference to the frame, as shown in the patent to Thielsen, and in Thurston and Ledyard, No. 47,880, May 23, 1865 (Record, p. 112), in which the truck bolster is designated by the letter B.

This vertical movement of the truck bolster is independent of the swinging movement of the truck and is intended to relieve the car from shocks caused by any unevenness in the track or road bed, and to effect it the truck bolster is held between columns or within a frame and rests upon springs, the springs being set upon a support generally called a spring plank but sometimes a lower or bottom bolster, and the truck bolster being pro-

vided with devices for holding it in place and guiding it in its upward and downward motion.

This arrangement is shown in the patent to McCoy and Dean, No. 242,670, June 7, 1881 (Record, p. 154), in which the springs are marked E, the truck bolster F, the spring plank D, the columns C′, and the guide F′.

In this arrangement the truck bolster is said to float, and it is to be understood that the term "floating bolster," which is used throughout the record in this case, means a bolster of this character.

The same arrangement is shown and described in the patent to Thurston and Ledyard, in which the columns are marked *a*, the guides 1, in figure 5, and the spring plank C; in the patent to Thielsen, in which the frame is marked H, the springs E, and the spring plank F; and in patent to Dripps, No. 98,675, January 11, 1870 (Record, p. 152), in which F is the truck bolster, E the spring plank, D the columns, and G the guides.

In the other form of truck before referred to as old in the art, in which the truck bolster is rigid with the truck frame, provision is also made for vertical movement of the bolster; but this movement is of the entire truck frame, and the springs, instead of being placed directly beneath the bolster and in contact therewith, are under the truck frame and rest upon the axle boxes. This arrangement is shown in the Roberts patent, and more clearly in the Naugatuck truck, to be hereafter referred to, "Defendant's Exhibit Naugatuck R.R. Iron Truck No. 1."

In each of these forms of truck it will be seen that the truck bolster serves to support the car in connection with the body bolster, and that therefore each form of truck bolster performs the same general function as the other.

As to the material of the truck bolsters, both wood and metal have long been known.

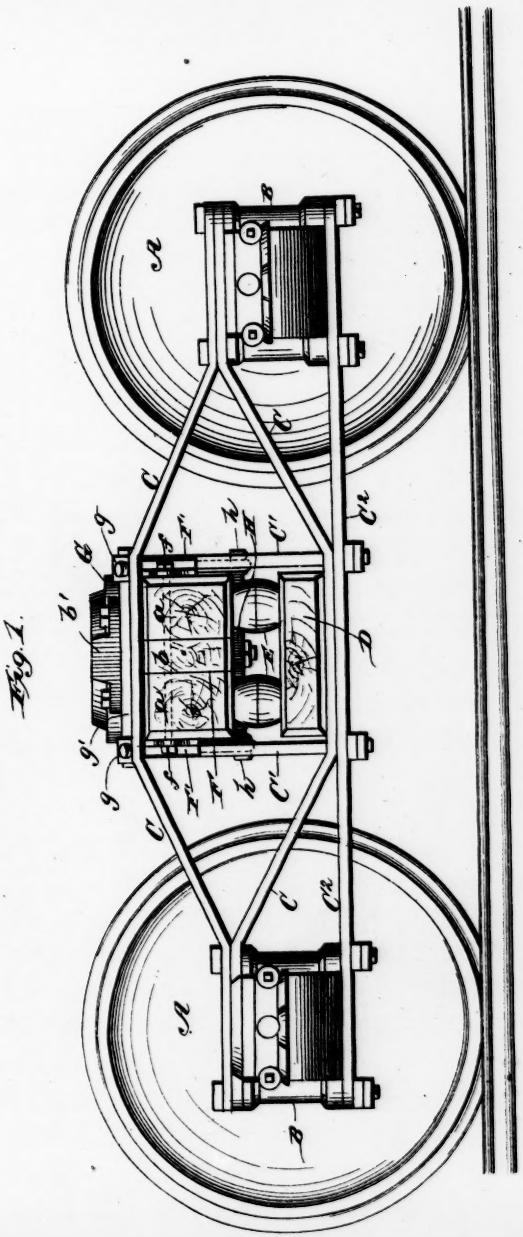


Fig. 1.

THE McCOY & DEAN PATENT, SHEET 1.

Fig. 2.

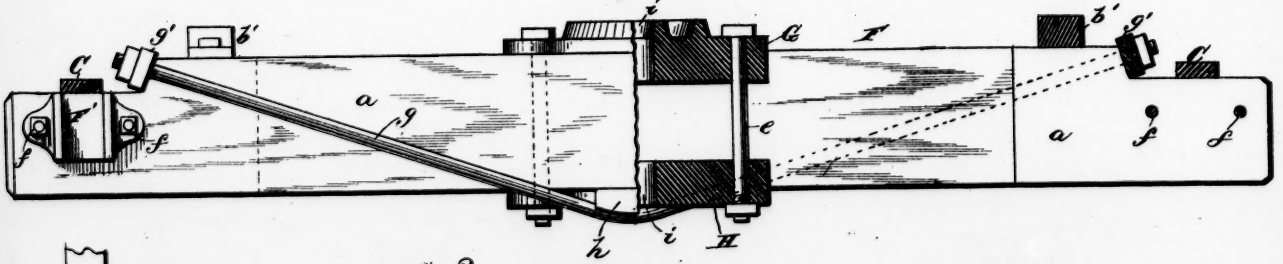


Fig. 3.

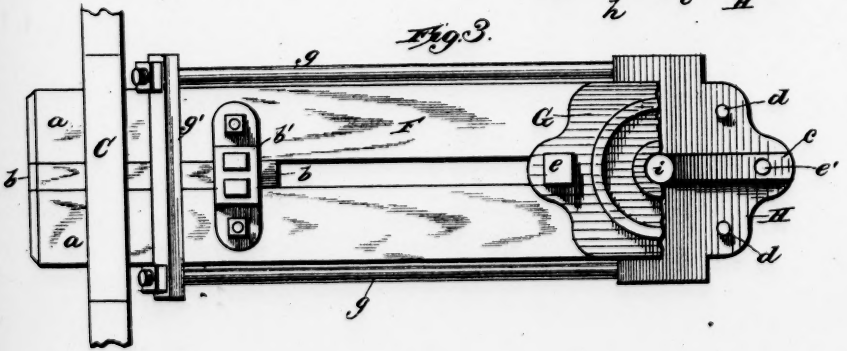


Fig. 4.

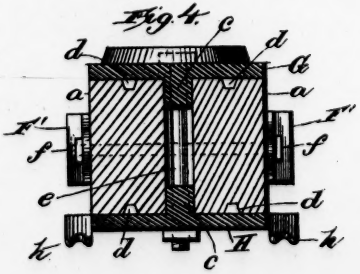


Fig. 1.

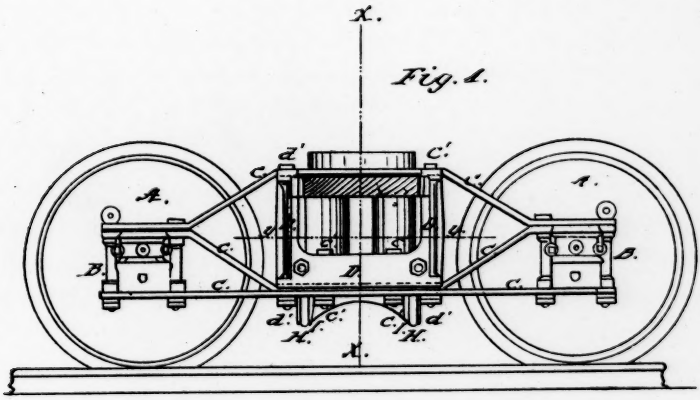


Fig. 2.

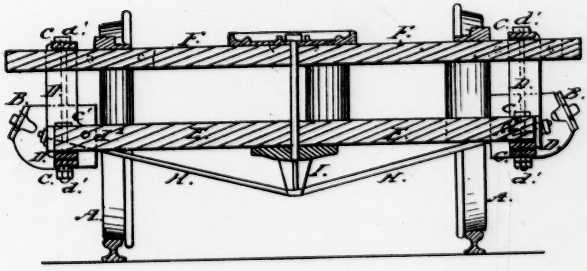


Fig. 3.

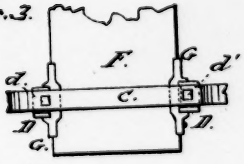
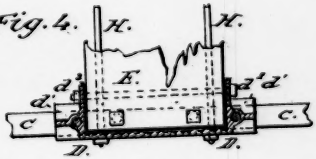


Fig. 4.



THE DRIPPS PATENT.

The patents to Roberts, Dripps, and McCoy and Dean show wood; Thurston and Ledyard, Thielsen, Simonds (No. 252,531, January 17, 1882, Record, p. 117), and the Naugatuck truck show metal.

Truss rods for the purpose of strengthening the bolsters are also very old, as shown in patent to Roberts.

All these kinds of truck bolster have been used with a form of truck known as the Diamond truck from the manner in which the iron bars composing the side framing of the truck are arranged. This form of truck is clearly shown in the patents to Thurston and Ledyard, Dripps, and McCoy and Dean, and is the form which has been in general use upon the railways of the United States for many years.

The McCarty and Bickel Patents.

This was the state of the art as to trucks generally when McCarty, who devised the subject-matter of the patents in suit, entered the field; and so far as these patents are concerned we have to deal only with the truck bolster, the controversy being limited to claims 2 and 3 of patent No. 314,459, and claims 1, 3, and 4 of patent No. 339,913.

Patent No. 339,913.

Taking patent No. 339,913 first, the matter covered by it is a truck bolster, consisting of two bars of metal placed one upon the other, the lower one being horizontal and the upper one arched so as to form a truss. The lower bar is made longer than the upper and its ends are turned up so as to form abutments or bearing surfaces for the ends of the upper bar, and thus to receive the end thrust caused by the weight imposed upon the bolster. Between the two bars, at their central point, are pillars or

columns which rest at their lower ends upon the lower bar and hold upon their upper ends the upper bar, fastening bolts being passed through the bars and the columns. Similar short columns are placed between the bars at the point at which the arch of the upper bar begins.

To the under side of each end of the bolster so formed is bolted a plate which serves to guide the bolster between the columns of the truck frame, the sides of this plate being notched as shown at *a* in figure 3 so as to fit around the columns of the truck frame.

In connection with this truck bolster there are truss rods which pass diagonally through castings placed upon the upper side of the truss, and are supported upon seats under the lower bar and provided with the usual screw-threads and nuts for giving them the proper degree of tension. Through these castings pass also the bolts which secure together the two truss bars, the short columns, and the guide plates.

This bolster is to be used in connection with the diamond truck, the ordinary springs and spring plank being used, the spring plank being described in the specification as the lower bolster.

This patent has four claims, as follows:

"1. As an improvement in car trucks, the hereinbefore-described bolster, composed of bars connected together at their ends, and having their centres united and held in relative vertical positions by means of posts and bolts, in combination with the truss rods, substantially as and for the purpose set forth.

"2. The truss rods K, in combination with the upper bolster bar, bearings J, for said truss rods, which are secured to said bolster, the interposed block M, and the truss rod seats L, which are interposed between said bolster and said truss rods, substantially as and for the purpose set forth.

"3. The lower bar, G, having flanges Q turned up on its ends, in combination with the arched upper bar, F, having its ends bearing against said flanges, the guide plates P, bolted to the ends of said

Fig. 1.

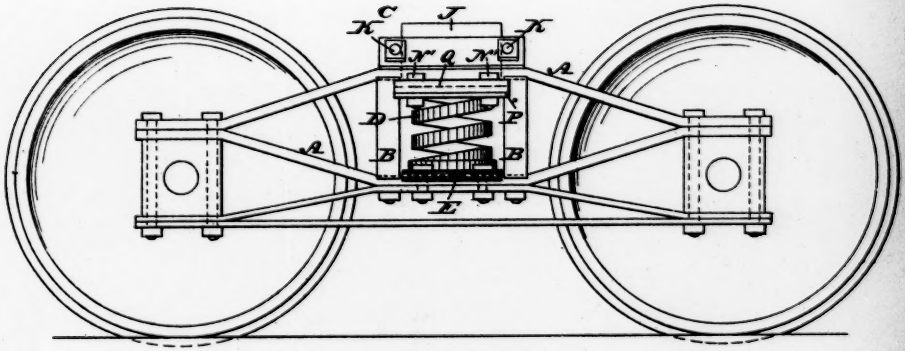


Fig. 2.

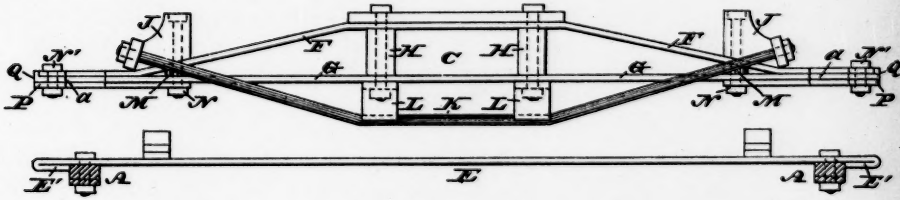


Fig. 3.

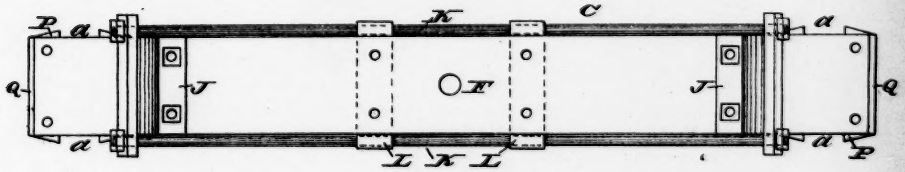


Fig. 4.



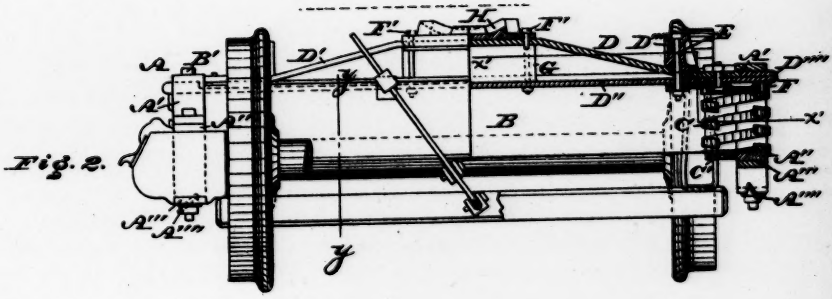


Fig. 2.



Fig. 6.

bars under the same, the stops or blocks M, inserted between bars F and G, near their ends, and the pillars H, also interposed between said bars, as stated.

"4. The upper bolster composed of the bent bar F, straight bar G, and interposed columns M, in combination with the plates P, secured beneath the bars F G at their ends, and notched or grooved on their sides at *a*, to receive the columns B of the side irons, substantially as and for the purpose set forth."

It will be observed that these claims are very limited, all the elements of the various combinations thereof being designated by letters of reference except in the first.

It will also be observed that both the first and second claims include as elements of the combination the truss rods marked K in the drawing; that the third claim is limited to a construction in which the lower bar of the bolster shall have flanges turned up on its outer ends to form bearings for the ends of the upper bar and in which there shall be guide plates "bolted to the ends of said bars under the same;" and that the fourth claim also comprises the guide "plates P secured beneath the bars F G at their ends and notched or grooved on their sides at *a*."

These claims are, therefore, upon their face limited to the specific construction shown and described in the drawings and specifications of the patent.

Patent No. 314,459.

So far as necessary to consider it for the purposes of this case, patent No. 314,459 discloses (see especially figure 2 of the drawings) a truck bolster similar in form to that of patent No. 339,913, the differences being that the truss rod is wanting; that instead of the pillars or columns between the central part of the two members of the bolster there are angle or channel irons which run the whole length of the straight central part of the arched upper bar and parallel therewith, bolts being passed

through the flanges of the angle or channel irons, and that the guide plates do not appear to be provided with side notches.

With the first claim of this patent we are not concerned, since it covers the construction of the truck frame. The second and third claims, however, cover the truck bolster. These claims are as follows:

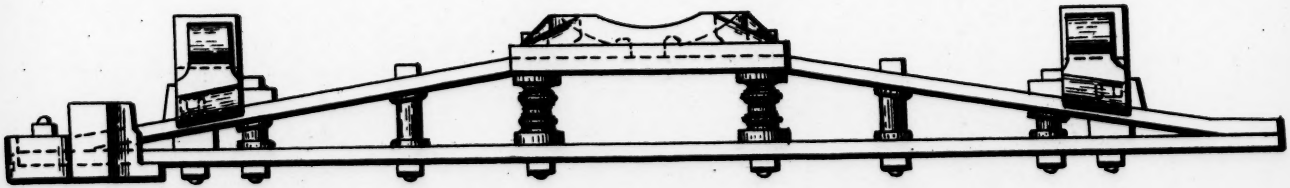
> "2. In a car truck, a bolster consisting of upper and lower bars and supporting angle irons between the bars, said angle irons being parallel to said upper and lower bars and bolted thereto through their flanges, substantially as and for the purpose set forth.
>
> "3. The upper bolster bar, D′, having horizontal ends, in combination with the lower bolster bar, D″, having its ends extended beyond the ends of the bar D′, and folded back against them, these two bars composing the whole bolster, substantially as shown."

The second claim, it will be seen, contains as a limiting feature the angle irons between the two members of the bolster, "said angle irons being parallel to said upper and lower bars and bolted thereto through their flanges;" and the third claim is limited to a construction of the bolster in which the ends of the lower bar are extended beyond the ends of the upper bar, and are folded back against the ends of the upper bar so as to form abutments substantially like those shown in patent No. 339,913.

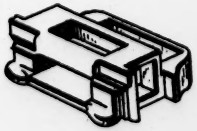
These two claims are thus like the claims of No. 339,913, limited upon their face to specific details of construction.

The Lehigh Valley Truck Bolster.

Before further considering the state of the art and the limitations which it and the proceedings in the Patent Office impose upon the claims of the McCarty and Bickel patents, it may be well to consider the construction of the truck bolster in use by the Lehigh Valley Railroad Company which is claimed to infringe these patents, because



The Lehigh Valley Truck Bolster & End Cap.



from a comparison of such structure with the structure appearing upon the face of the claims it is believed it will be apparent to the court that there is no infringement, and that therefore this court need not, as did the court below, base its decision entirely upon the invalidity of the patents.

There is no dispute as to the form of truck bolster used by the appellee. It is clearly shown in blue-prints Defendant's Exhibits Lehigh Valley Railroad Co.'s Trucks Nos. 1, 2, and 3, and Diamond Truck Bolster, and in the models Defendant's Exhibits Lehigh Valley R.R. Trucks Nos. 1 and 2.

These exhibits show two slightly different forms of bolster, consisting of two bars of metal placed one upon the other, the differences being mainly that in Truck No. 1 the lower bar of the bolster is horizontal, while in No. 2 and in Diamond Truck Bolster it is arched downwardly. In both cases, however, both upper and lower bars are of the same length, the lower bar not being flanged or turned over at its extremities. Over the ends of these bars and embracing the top, bottom, sides, and ends of the bolster formed by them is a box or cap which encloses and forms an abutment for said ends, and is provided on its sides with lugs forming guides, this abutment receiving the end thrust of the truss.

Through these caps or boxes and the ends of the bars pass vertical bolts, which, together with similar bolts passing through pillars or columns between the bars, serve to connect the two members of the bolster. The arrangement of the pillars or columns is somewhat different in the two trucks, but not materially, and in No. 2 there are diagonal braces between the bars.

Except that it wants the truss rods N, the bolster of truck No. 1 is substantially the same as that shown in

patent to Montz, No. 291,282, January 1, 1884. (Record, p. 110.)

The same is true as to truck No. 2.

Non-Infringement.

Returning now to the McCarty and Bickel patents, it will be seen that the appellee's structure does not contain the combination covered by the first and second claims of No. 339,913, because it has no truss rods, and these rods are made an essential feature of each one of these claims.

It does not contain the combination of the third claim, because it does not have the flanges Q turned up on the ends of the lower bar to form abutments for the ends of the upper bar, nor does it have "the guide plates P bolted to the ends of the bars under the same."

It does not contain the combination of claim four, because it does not have "the plates P secured beneath the bars F, G, at their ends, and notched or grooved on their sides at *a*."

As to patent No. 314,459, appellee's truck bolster does not have the combination of claim two, because it does not have "supporting angle irons between the bars, said angle irons being parallel to said upper and lower bars and bolted thereto through their flanges."

It does not have the combination of claim three, because it does not have the "ends" (of the lower bolster bar, D″) "extended beyond the ends of the bar D′" (the upper bolster bar) "and folded back against them."

With the exception of one claim, the fourth claim of No. 339,913, this fact of non-infringement is admitted by appellants' expert, Mr. George P. Whittlesey. He was asked (Record, p. 87):

"x-Q. 76. In comparing defendant's blue-print drawing and Exhibit No. 12 with the McCarty patents in issue, you stated that you found the combination covered by the 4th claim of patent No. 339,913 embodied therein, or words to that effect. Do you find any other combinations of the claims embodied in the structure shown by said drawings and publication, of course confining yourself to the 1st, 3d, and 4th claims of one patent and the 2d of the other?

"A. The first claim of No. 339,913 does not seem to be embodied in these exhibits, for the reason that the truss rods specified in said claim are not used in combination with the upper or lower bars of the bolsters shown in the exhibit. The combination set forth in claim 3 of No. 339,913 does not seem to be found in said exhibits, for the reason that the upturned flanges Q on the lower bar are not shown therein, so far as I can make out. The combination covered by the second claim of No. 314,459, which includes the parallel angle irons secured between the upper and lower bars is not found in these exhibits, unless the diagonal braces shown in Exhibit 2 of Exhibit Diamond Truck should be construed as equivalents to the angle iron specified. It does not seem to me probable that they would be so regarded by the court, since they are not parallel to one another.

"x-Q. 77. Then, when you stated that in your opinion the use of trucks constructed as shown by the blue-prints would be an infringement on the McCarty patents referred to, you had reference solely to the 4th claim of patent No. 339,913. Is that correct?

"A. As I understand the exhibit, it seems to me that that is the only claim which they infringe."

Although the third claim of patent No. 314,459 is not specifically mentioned in the questions and answers just quoted, what Mr. Whittlesey says as to the third claim of No. 339,913—that is, that it is not infringed, because "the upturned flanges Q on the lower bar are not shown therein"—applies equally to this claim, since the construction covered by it is substantially the same as that comprised in claim 3 of No. 339,913—that is, the ends of the lower bar are turned over so as to form flanges or abutments.

McCarty himself (Record, p. 30, x-Q. 32) is asked:

"Do you make any claim that the defendant has infringed your patent by the use of truss rods in such trucks?

"A. No, sir."

Again, he is asked (Record, p. 31):

"38 x-Q. Referring to the first claim of your patent No. 339,913, is it not for a combination of the bolster described with the truss rods substantially as and for the purpose set forth?

"A. That appears to be the case.

"39 x-Q. Then, if the defendant does not use the truss rods in the construction of its trucks, can it have this combination?

"A. I would not understand that it would have this specific combination."

The testimony of appellants' witness Holman (Record, p. 60) is to the same effect.

"x-Q. 41. Do you find in the drawings defendant's blue-prints exhibits, or have you seen in any of the trucks of cars belonging to the Lehigh Valley Railroad Company, truss rods such as are shown in patent No. 339,913?

"A. I do not think that I have. I think the ones I saw had no truss rods; I am almost positive. I do not find them in the drawings referred to."

Mr. Whittlesey (Record, p. 78) again testifies to the same effect:

"x-Q. 29. Referring now to patent No. 339,913, the first claim is for the combination of the bolster described in the specification with the truss rods described in the specification, is it not?

"A. It is.

"x-Q. 30. That claim would not be infringed if the truss rods were not used, would it?

"A. It would not."

It is therefore clear from these admissions of Mr. McCarty himself and his only two witnesses that, even in their opinion, there is no infringement of claims 1 and 2 of patent No. 339,913.

Claim 3 of Patent No. 339,913.

As to claim 3 of said patent, Mr. McCarty admits (Record, pp. 34–35), though not without some reluctance, that the turning up or bending over of the lower bar so

as to form flanges against which the ends of the upper bar abut is not shown in the Lehigh Valley bolster.

He is asked:

"50 x-Q. Has the defendant united the ends of the upper and lower bars of the bolster by having the lower bar made with flanges turned up on its ends and having the ends of the upper bar bearing against said flanges in the construction you claim to have infringed your patent?

"A. I cannot say that this particular form has been followed in all cases.

"51 x-Q. Do you know of any case in which it has been followed?

"A. I cannot say that this particular form has been followed.

"52 x-Q. I ask you whether in any case it has been followed?

"A. I do not know that it has been followed at all, or to any extent.

"53 x-Q. Such particular construction is not shown by the blue-print?

"A. The blue-prints are not sufficiently shown in detail to determine that.

"54 x-Q. Do they show it at all?

"A. It does not show how they are united.

"55 x-Q. Can't you say whether it does or does not show that particular thing?

"A. It does not show that particular thing; it does not show anything."

Mr. Holman (Record, p. 60) is also asked:

"x-Q. 42. Do you find in said drawings or in the construction of trucks of the Lehigh Valley R.R. metal bolsters having the ends of the lower bar turned up, in combination with an arched upper bar having its ends bearing against the turned-up portions of the lower ones?

"A. No, sir; I do not find them. * * *

"x-Q. 43. Do you find in said drawings or in said trucks the use of plates secured beneath the end of the bottom bar notched or grooved at their sides to receive the columns of the side irons? I mean a plate like that shown by the sketch of 'Defendant's Exhibit McCarty 3rd Claim Patent No. 339,913.'

"A. No, sir."

Mr. Whittlesey (Record, p. 78), in addition to what has already been quoted from his answer to x-Q. 76 as to this claim, also testifies:

"Q-x. 31. Passing to the third claim, is not one of the elements of parts the lower bar, G, having flanges Q turned up on its ends?

"A. It is.

"x-Q. 32. Another, the upper bar having its ends bearing against said flanges?

"A. It is.

"x-Q. 33. Another, the guide plates P bolted to the ends of said bars under the same?

"A. It is.

"x-Q. 34. And the other elements are the stop blocks M and the pillars H?

"A. They are.

"x-Q. 35. Would this claim be infringed if the lower bar, G, did not have the flanges Q turned up on its ends, and the upper bar, F, having its ends bearing against the said flanges?

"A. I think not."

In another place Mr. Whittlesey says (Record, p. 67, Q. 6):

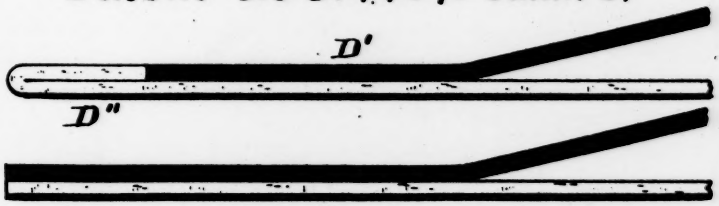
"Referring now to patent No. 339,913, claim 3 is directed to a *specific construction* of the lower bar of said bolster, namely, that in which its flanges turn up on its ends, said flanges, as I understand the construction, being for the purpose of receiving and sustaining to a certain extent the thrust of the upper bar, which is in effect the compression bar of the truss."

This shows beyond doubt that in Mr. Whittlesey's opinion this claim is limited to the precise thing illustrated and described in the patent.

It is therefore clear that as to patent No. 339,913, not only is there no infringement of the third claim upon its face, but that the admission is made, not only by appellant McCarty himself, but by all his witnesses, that the specific construction to which appellants' expert witness says this claim is limited is not found in the Lehigh Valley truck bolster.

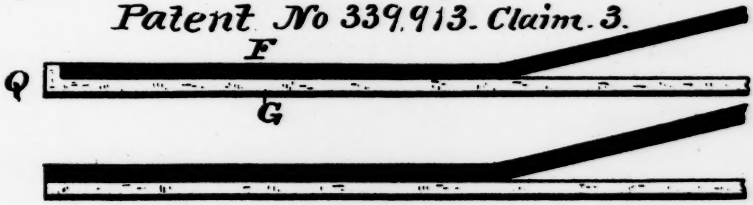
It is also clear that there is no infringement in fact, because these turned-up ends perform a special function in the McCarty and Bickel structure, namely, to receive the

Turned-over Ends of Mc Carty Truck Bolster.
Patent No 314459. Claim 3.



Plain Ends of Lehigh Valley Truck Bolster.

Flanged Ends of Mc Carty Truck Bolster.
Patent No 339,913. Claim. 3.



Plain Ends of Lehigh Valley Truck Bolster.

end thrust caused by the weight of the car bearing upon the truck bolster, which function in the Lehigh Valley bolster is not performed by any part of either one of the two bars, but by the end wall of the cap placed over the ends of the two bars, and within which cap such bars are housed.

Mr. McCarty, it is true, thinks this turning up an immaterial matter (x-Q. 43), and that the claim covers any means of joining the bars,—welding, for example,—but it must be seen from his testimony that his ideas of the construction of claims are so expansive as to carry little weight.

But that this claim can be construed broadly enough to cover any other form of truck bolster than one in which the ends of the lower bar are turned up to form an abutment for the upper bar, is negatived by the fact that in McCarty and Bickel's application for the patent they originally did not restrict themselves to any particular means for joining the ends of the bars, but claimed broadly any form of truck bolster in which there were an arched top bar and a bottom bar with columns between them. Their original first claim was as follows:

> "The upper bolster of a car truck formed of an arch top bar, a bottom bar, and columns on which the arch of the top bar is sustained, substantially as and for the purpose set forth."

This claim having been rejected, they claimed, after successive rejections, the same structure in a variety of forms, both singly and in combination with other devices, the last claim made being as follows (Record, p. 107):

> "*Second.* In a car truck, a bolster extending across the truck and consisting of the bar F, the bar G, below said bar F, and the pillars H interposed between said bars, substantially as and for the purpose set forth."

This claim was likewise rejected by the examiner and

was abandoned, leaving the present third claim with its restriction to the flanged ends of the lower bar.

It hardly needs any authority at this late day to show that this action of the appellants in limiting their third claim to a combination of devices of specific form estops them from asserting any broader scope for such claim than they gave it while their application was pending. So limited, the claim is not infringed.

This disposes of the question of infringement of the third claim.

As to the fourth claim, as we shall hereafter see, it is also admitted that the alleged infringing structure is different from that covered by this claim, but the ground is taken that the elements of each of such structures are substantial equivalents.

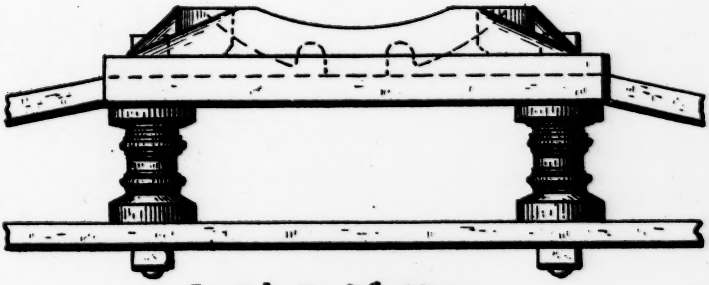
Claim 4 may therefore be left for the present, to be discussed later in connection with the state of the art.

Patent No. 314,459.

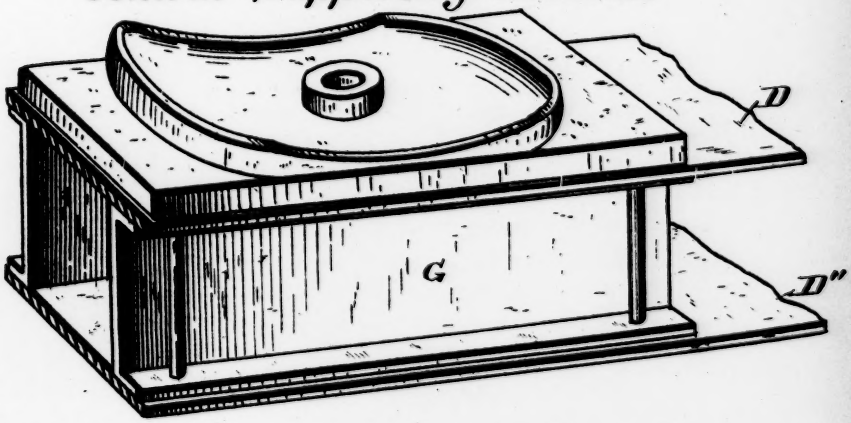
As to patent No. 314,459, we have already seen that by stipulation of the parties (Record, p. 8) the first claim thereof is not involved in this suit, and that in the opinion of appellants' expert witness there is no infringement of either of its other two claims.

As to the second claim, Mr. Whittlesey (Record, p. 86), in addition to what has already been quoted from x-Q. 76, testifies as follows:

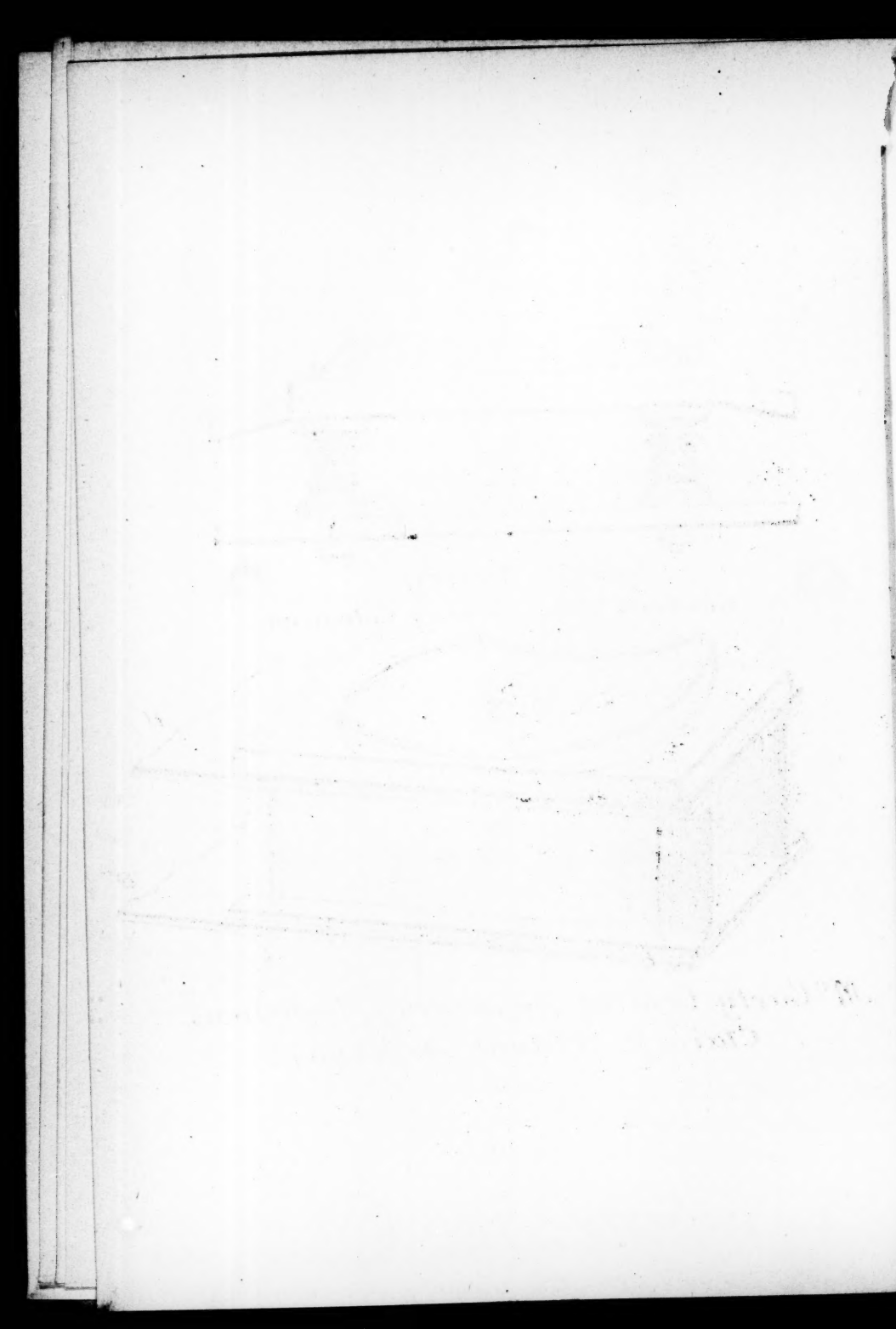
> "x-Q. 66. Would you consider that the use of the columns H of the McCarty patent No. 339,913 would be the equivalent of the angle irons in No. 314,459?
>
> "A. Strictly speaking, I should say not.
>
> "x-Q. 67. Then the use of a car truck bolster consisting of upper and lower bars supported by columns like the columns H of No. 339,913 would not be an infringement of said second claim of patent No. 314,459?
>
> "A. It does not seem to me that it would."



Lehigh Valley
Central Supporting Columns.



McCarty Central Supporting Angle Irons
Claim 2, Patent No. 314,459.



The force of this statement by Mr. Whittlesey will be apparent when it is remembered that the Lehigh Valley truck bolster contains columns between its bars like the columns of the McCarty patent No. 339,913, instead of the angle irons covered by the claim in question.

As to this claim, it is also admitted by Mr. McCarty and Mr. Holman that no angle irons are shown in the Lehigh Valley bolster (McCarty, Record, p. 43, x-Q. 104–106; Holman, Record, p. 61, x-Q. 44), but both of them claim that the angle bars are the equivalents of the columns of the Lehigh Valley trucks, in which they take a position exactly opposite to the appellants' own expert witness, Whittlesey.

It is, however, submitted that the appellants are not in a position to claim the doctrine of mechanical equivalents as applied to the angle irons and the pillars or columns, because when their application was pending in the Patent Office they first claimed broadly:

> "2. In a car truck, a bolster consisting of upper and lower bars and supporting angle irons between the bars, substantially as and for the purpose set forth."

Upon being rejected, to escape the references, they inserted the words "said angle irons being parallel to said upper and lower bars, and bolted thereto through their flanges," and in the argument in support of the amended claim they say:

> "With regard to second clause as amended, Simonds' bolster has no angle irons. His truss has them, but even in his truss they are transverse, not parallel to the other irons as in my bolster. Montz would be a somewhat closer reference, *but his pillars are not equivalents for my angle irons G, because each of them braces at one point only.*"

(Complainant's Exhibit No. 2, Record, pp. 97, 98.)

The Montz patent referred to is in evidence (Complainant's Exhibit No. 5, Record, p. 110), and shows the iden-

tical structure of one form of the Lehigh Valley truck bolster, omitting the truss rods.

Here, too, under the well-known rule, McCarty and Bickel are estopped by this self-imposed limitation from seeking to have a broader construction put upon this claim than they themselves put upon it in order to obtain their patent, and no structure can be held to infringe the claim which does not contain the angle irons arranged as specified therein.

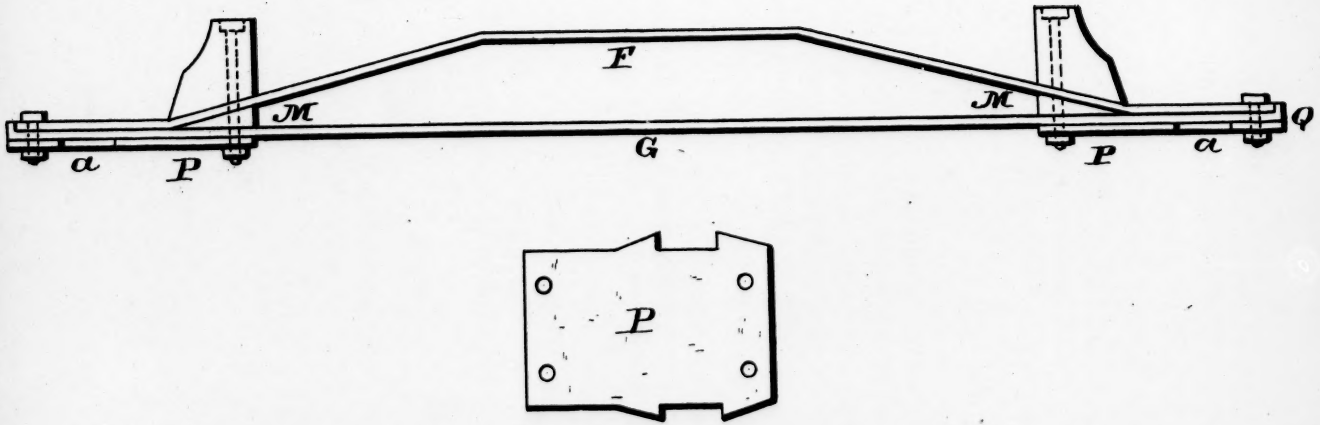
As to claim 3, it has been already shown, in discussing claim 3 of patent No. 339,913, that the Lehigh Valley truck bolster admittedly does not have the outer ends of the lower bar turned over so as to form an abutment for the ends of the upper bar, and that in the opinion of the appellants' expert witness there is no infringement of this claim.

Holman (Record, p. 61) is asked:

> "x-Q. 45. Are the ends of the lower bolster bar extended beyond the ends of the upper bar and folded back against the ends of the upper bar in the construction shown by the drawings or defendant's truck?
>
> "A. No; they are not."

To the same effect are Whittlesey (Record, p. 78, x-Q. 35, and pp. 87–88, x-Q. 76) and McCarty (Record, p. 34, x-Q. 50–55, p. 44, x-Q. 112–113), and what has been said as to the interpretation and non-infringement of claim 3 of patent No. 339,913 applies to the third claim of patent No. 314,459.

It is therefore also apparent that by the admissions of appellants' own witnesses, as well as upon the face of the patent and in fact, there is no infringement of the McCarty and Bickel patent No. 314,459.



Mc Carty Truck Bolster & Guide Plate.
4th Claim of Patent 339913.

Claim 4 of Patent No. 339,913.

This claim is as follows:

> "4. The upper bolster composed of the bent bar F, straight bar G, and interposed columns M, in combination with the plates P, secured beneath the bars F G at their ends, and notched or grooved on their sides at *a*, to receive the columns B of the side irons, substantially as and for the purpose set forth."

It is to be observed that although this claim does not in terms include the upturned ends of the lower bar which form abutments for the ends of the upper bar, yet that these bars in both places in which they are referred to in the claim are specifically designated by the letters of reference appearing upon the drawing, and no other arrangement of bars is described or hinted at in the specification. The claim fairly interpreted must, therefore, include the turned-up ends of the lower bar.

As the same conditions prevail with respect to the guide plates, namely, that they are designated in the claim by reference letters, that only the form shown in the drawings is described in the specification, and that they are further described in the claim as being secured beneath the bars F G at their ends, and notched or grooved at a particular point designated by the letter *a*, it follows that only the specific construction and arrangement of the guide plate shown in the drawings can be covered by this claim.

So interpreted it is clear that the Lehigh Valley truck bolster does not infringe this claim, for it has neither the turned-up end nor the flat, notched plate P. That this is the correct rule of interpretation is established by a number of well-known decisions of this court.

The latest statement of it is found in the language of Mr. Chief Justice Fuller in the case of Lehigh Valley Railroad Company *v.* Kearney (158 U. S. 461), decided at the last term of this court, as follows:

> "The rule is that when the applicant acquiesces in the rejection of claims by the Patent Office, or in a construction which narrows or restricts them, and where the elements which go to make up the combination of the claim are mentioned specifically, and by reference letters, leaving no room for question as to what was intended, the claim must be confined and restricted to the particular device described." (Knapp *v.* Morss, 150 U. S. 221.)

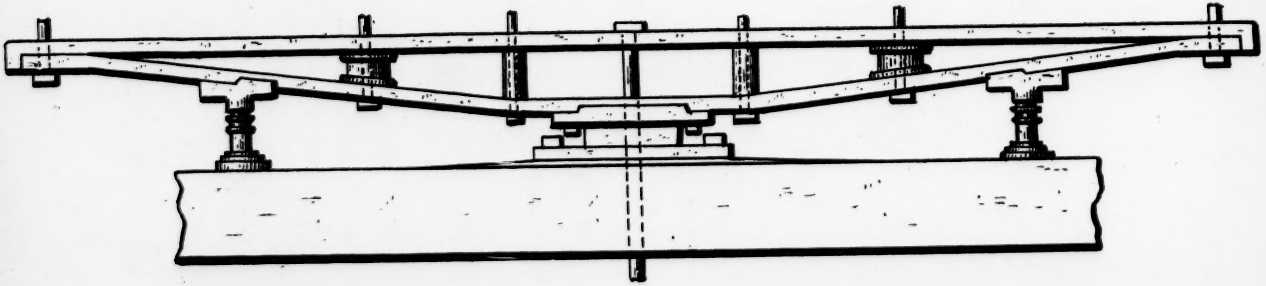
That such an interpretation of this claim is the correct one will further appear from a consideration of the state of the art.

First. It appears that, long before any date which can be given to McCarty and Bickel, body bolsters had been made in the form of a truss from two bars of metal, one of which was arched and the other straight, and the two attached together at their ends.

This form of body bolster is shown in Defendant's Exhibit Car Builders' Dictionary, figures 233 and 235, on page 342, and 237 on page 343; also in "Defendant's Exhibit Old Metal Transom."

The old metal transom (transom being a synonym of bolster) shows all the features of the McCarty truck bolster, including the turned-over ends of one member of the truss. It also shows caps on the ends for supporting part of the car structure, and when it is remembered that this body bolster was used in connection with a similar truck bolster, the Naugatuck bolster, it will be seen how much more than suggestive to one skilled in the art is the use of such a bolster in place of any of the other forms of floating bolster. The only thing necessary is to turn it upside down, remove the end pieces, and apply to it the ordinary adjuncts of a floating bolster.

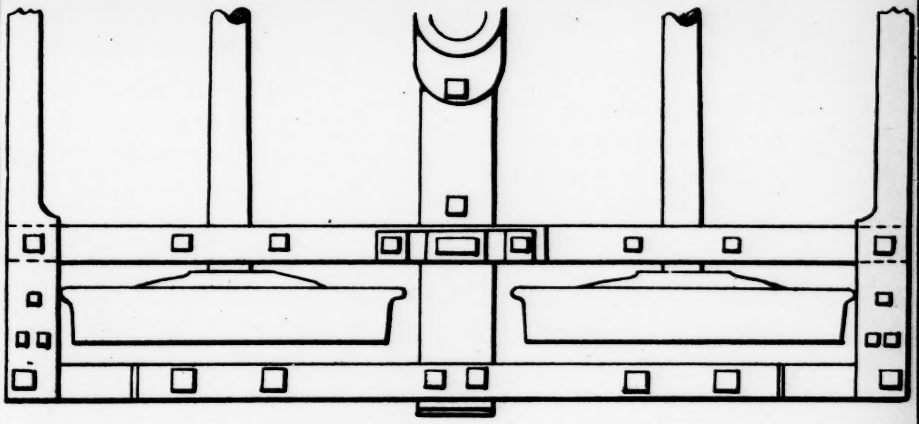
The use of the old metal transom or body bolster with the Naugatuck truck bolster is established by the testimony of George W. Beach, superintendent of the Naugatuck road (Record, page 139, QQ. 19–22).



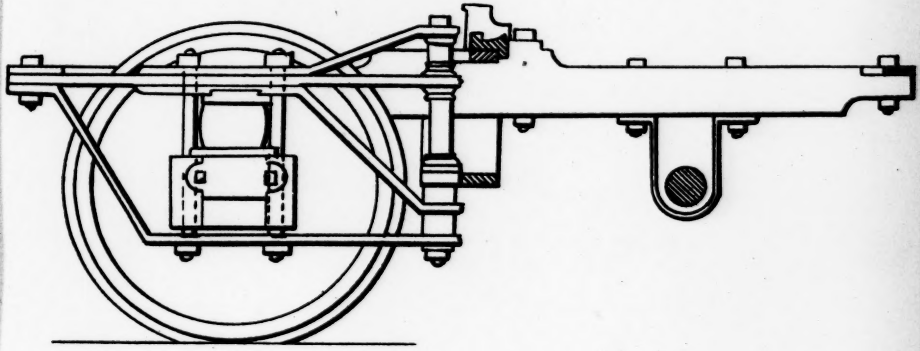
Old Metal Transom or Body Bolster.



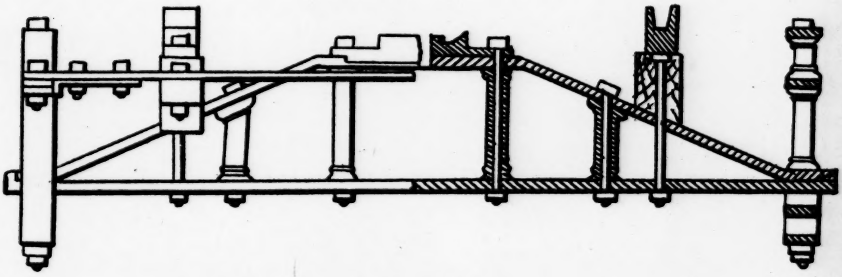
Thielsen's Truck Frame.



PLAN



HALF SIDE ELEVATION



HALE END ELEVATION.

Reference to figure 3 of the patent to Thielsen will likewise show that turning up the ends of the lower bar of a metallic truss to serve as abutments for the ends of the upper bar is an old mechanical expedient, which, in Thielsen's case, is applied to the side frame of a Diamond truck.

Second. It is shown by "Defendant's Exhibit Naugatuck Truck" that a truck bolster of almost the identical form of McCarty and Bickel's, having, however, no truss rods, had been in use upon the Naugatuck Railroad in the State of Connecticut and upon other railroads as far back as 1862 and thereafter, and was in actual use upon the New York, New Haven and Hartford Railroad, the present owner of the Naugatuck road, at the time when this testimony was taken, the exhibit photographs having been made from a car in service upon the New Haven road.

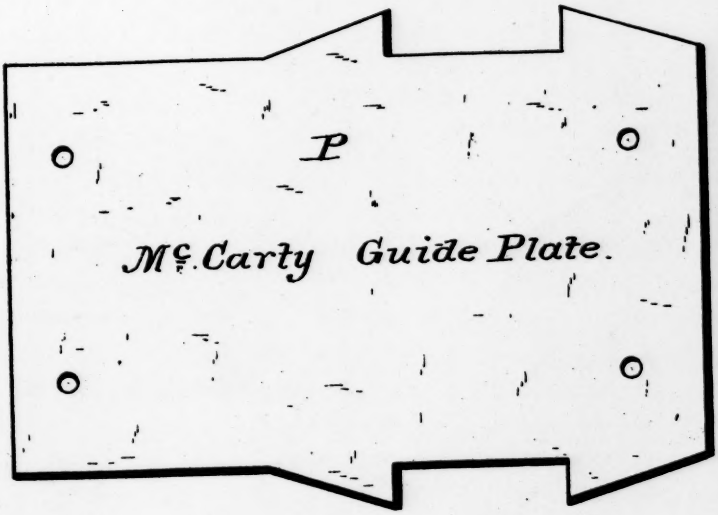
The existence of this truck between the times specified is clearly proved by the testimony of George W. Beach (Record, p. 137), Constant A. Wolff (Record, p. 140), John O'Brien (Record, p. 141), Carlos French (Record, p. 141), and Henry D. Beach (Record, p. 142), and no attempt has been made upon the part of the appellant to controvert it.

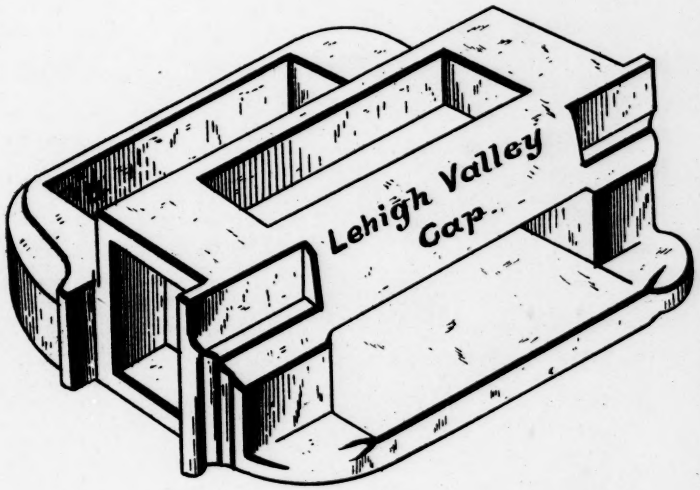
This Naugatuck truck bolster, it will be noted, is composed of the bent bar, the straight bar, and interposed columns as specified in claim 4. It has also the upturned ends of the lower bar against which the ends of the upper bar abut, and carries a centre plate upon its top to support the body bolster. Excepting the rods, it is, as a trussed bolster, in all substantial respects like McCarty and Bickel's truck bolster. It does not, of course, have the guide plates P or side bearings, as they were not needed in the form of truck with which it was used.

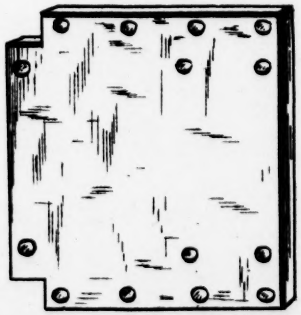
Guide plates are, however, old and well-known devices in connection with truck bolsters, being shown in the patents to Thurston and Ledyard, Dripps, and McCoy and Dean; in Thurston and Ledyard taking the form of a simple plate attached to the ends of the metallic beams forming the truck bolster, and being provided with guide notches at the ends instead of the side of the plate. That such guides are old is admitted by Mr. McCarty (Record, p. 31, x-Q. 36-37). The side bearings are also old in Roberts and Thielsen, as has already been seen.

In view of this state of the art, it would seem to be clear that the fourth claim must be closely limited in fact, as it is in terms, to the precise construction of bolster and guide plates shown in the drawings of the patent.

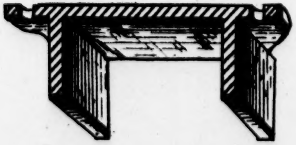
If it be urged that the end cap of the Lehigh Valley truck bolster is the equivalent of the guide plate P, it is to be said that such plate is nothing but a flat piece of metal one inch or less in thickness which, aside from supporting the springs, performs the single function of keeping the bolster in position between the columns—a function performed equally well and in substantially the same manner by the plates of Thurston and Ledyard. On the other hand, the appellee's caps not only guide the truck bolster, but, as they embrace the ends of the bolster, tend to maintain these ends in proper position with respect to each other. As the ends of these caps are solid, they also take the place of and perform the same function as the turned-up ends of the lower bar of the McCarty and Bickel bolster; that is, they sustain the end thrust of the upper bar of the truss caused by the weight of the car resting upon it. They therefore perform a function entirely different from the McCarty and Bickel plates, and could not be used as substitutes for them. They are therefore not mechanical equivalents. (Miller *v.* Eagle Manufacturing Co., 151 U. S. 186).


P
Mc. Carty Guide Plate.

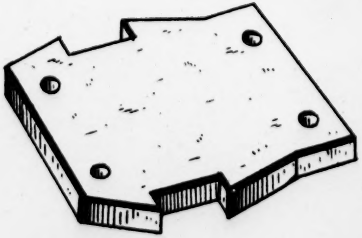

Lehigh Valley
Cap



Thurston & Ledyards
Guide Plate.



McCoy & Dean's and Dripps'
Guide Plate.



McCarty Guide Plate.

This is evidenced by the action of the Patent Office, which granted a claim for this form of end cap in the patent to Montz, No. 291,382, before referred to, during the pendency of the application of McCarty and Bickel. This claim is found upon page 111 of the record, and is as follows:

> "1. As a means for connecting the bolster with the truck frame, the cap I, having the form shown, and provided with the recess *i*, and side flanges *i'*, substantially as specified."

The grant of this claim raises a strong presumption that there is a substantial difference between the two devices.

Miller *v.* Eagle Manfg. Co., above.

Boyd *v.* Janesville Hay Tool Co., 158 U. S. 260.

That this fourth claim should be specifically limited further appears from a consideration of the proceedings in the Patent Office during the pendency of the application upon which patent No. 339,913 was granted. The file wrapper and contents of such application are in evidence as "Complainant's Exhibit No. 3." (Record, p. 102.)

It has already been shown, in discussing the third claim of this same patent, that McCarty and Bickel, during the pendency of their application, originally claimed broadly a truck bolster consisting of an arch top bar, a bottom bar, and interposed columns, and that after successive rejections they restricted their invention to a structure in which the lower bar should be provided with turned-up ends serving as abutments for the ends of the upper bar.

Further than this, as originally filed, the application contained a claim, the fifth, which covered broadly the use of the guide plates with the bolster in the following language:

> "5th. The truck bolster provided on its ends with supporting and guiding plates, substantially as and for the purpose set forth." (Record, p. 102.)

This claim having been rejected, an amended claim was filed as follows (Record, p. 103):

> "4. (5th) A truck bolster provided at its ends with plates, which are notched to fit upon vertical parts of the frame, so as to serve as guides and supports for said bolster, substantially as set forth."

This claim was rejected upon the patent to Thurston and Ledyard, before referred to.

After this rejection, the appellants ceased to claim broadly the bolster provided with notched guides, and the claims thereafter introduced designated the guide plate by its letter of reference and its position upon the bolster. Thus amended claim 2 (Record, p. 104) includes the plate in combination with other elements as "the guide plate P bolted to the ends of said bars under the same."

Amended claim 4 (Record, p. 105) similarly includes the plates as "plates P, secured between the bars F, G, at their ends, and notched or grooved on their sides at *a*."

The fifth and sixth amended claims respectively (Record, p. 106), also include said plates as "the guide plates P bolted to the ends of said bars under the same," and "as the plates P secured beneath the bars F, G, at their ends, and notched or grooved on their sides at *a*."

Amended claims 5 and 6 are now claims 3 and 4 of the patent under consideration.

It is therefore apparent that as to the fourth claim of patent No. 339,913 appellants are estopped from having a construction put upon it broad enough to include any form of body bolster other than that shown in the drawings and specifically described in the specification and in the claim itself, and that therefore the Lehigh Valley truck bolster does not infringe this claim.

Any construction of this claim or of any of the claims of the two patents broad enough to include the Lehigh

Valley bolster would also include structures which were originally claimed by McCarty and Bickel and abandoned as conditions precedent to the grant of their patents. That such construction will not be given to the claims of a patent is now thoroughly established by repeated decisions of this court.

Burns *v.* Meyer, 100 U. S. 671.
Sutter *v.* Robinson, 119 U. S. 530.
Roemer *v.* Peddie, 132 U. S. 313.
Phœnix Caster Co. *v.* Spiegel, 133 U. S. 360.
Knapp *v.* Morss, 150 U. S. 221.
Morgan Envelope Co. *v.* Albany Perforated Wrapping Paper Co., 152 U. S. 425.
Lehigh Valley Railroad Co. *v.* Kearney *et al.*, 158 U. S. 461.

As to all the claims of both the McCarty and Bickel patents, it may be said, in conclusion, that giving them the narrow interpretation which is demanded by their language, the state of the prior art, and the restrictions placed upon them by the appellants in their struggle to obtain a patent, as well as by the material differences in structure between the truck bolster covered by the patents and that in use by the appellee, no other conclusion can be reached than that there is no foundation for the allegations of infringement contained in the bill of complaint in this case.

In fact, appellants' entire case seems to be based only upon the belief of McCarty that he is the original and first inventor of a metallic truck bolster. This clearly appears in his testimony (Record, p. 63, x-Q. 166–169):

"x-Q. 166. Do you claim to be the first inventor of a metal bolster for car trucks?

"A. I claim to be the first inventor of the metal bolster for car trucks described in the patents in question.

"x-Q. 167. The question did not refer to any letters patent. Please answer it without reference to any.

"A. To my knowledge, I was the first inventor of a metal bolster for car trucks of any successful form or practical form whatever.

"x-Q. 168. Do you claim to be the first inventor of a metallic bolster for car trucks of any form?

"A. I answered that question in the former answer.

"x-Q. 169. Is that the best answer you can make to the question?

"A. That is about as near as I can reply to the question.

"x-Q. 169. Do you not know that bolsters for car trucks made of metal were known and patented long prior to your invention?

"A. I do not know of any."

The absurdity of this claim will be apparent when it is remembered that in 1865, fifteen years before McCarty had even thought of the subject, Thurston and Ledyard obtained a patent for a floating metallic truck bolster, as did also Thielsen in 1869, ten years before.

It will also be apparent from the testimony of Mr. Whittlesey, who had made an investigation and knew better (Record, p. 90).

"85 x-Q. On the state of the art as known to you, can you say that Mr. McCarty was the first inventor of a metal bolster for car trucks?

"A. Not at all."

It may be well to note here that Mr. Whittlesey did not see the Naugatuck truck bolster. Even without seeing it, he testified that there was no infringement, except of the fourth claim. What his opinion would have been if he had seen it cannot, of course, be said; but if a conjecture be permitted, it may well be that so fair a witness as he showed himself to be would have recognized the damaging effect to the appellant of the Naugatuck bolster upon both the questions of patentability and infringement, and would have concluded that there was no infringement of even the fourth claim.

The McCarty and Bickel Patents Invalid.

Having thus shown that none of the claims of the two McCarty and Bickel patents is infringed by the Lehigh Valley truck bolster, the question of the validity of the claims of said patents may now be considered.

It was held by the court below that, in view of the prior state of the art, and especially the Naugatuck truck, there was no patentable novelty in McCarty and Bickel's truck bolster; that all McCarty did was to take the Naugatuck truck bolster from its position, rigid with the truck, and place it upon the Diamond truck in a position movable with reference to the truck—in other words, to make of it a floating bolster, and that to effect this required only the addition of devices old in the art and within the knowledge of the skilled mechanic.

That this view taken by the court is correct does not seem to admit of a doubt. It has already been shown that the Naugatuck bolster is substantially the same in form as the bolster covered by the McCarty and Bickel patents except that it wants the truss rods. It is composed of an upper bar of arched form, a lower bar with its ends turned up so as to form abutments for the upper bar, and it has supporting columns between the two bars.

It also, like McCarty and Bickel's truck bolster, has a centre plate upon the top of the upper bar for the reception of a body bolster, and, as a support for the car body, performs the same function as theirs.

Upon this subject the testimony of Henry D. Beach, a purely disinterested witness, who at one time was superintendent of rolling stock of the New York, New Haven and Hartford Railroad Company, is strongly in point (Record, pages 144–145, QQ. 19–28, x-QQ. 29–31).

It is true the Naugatuck bolster is not considered

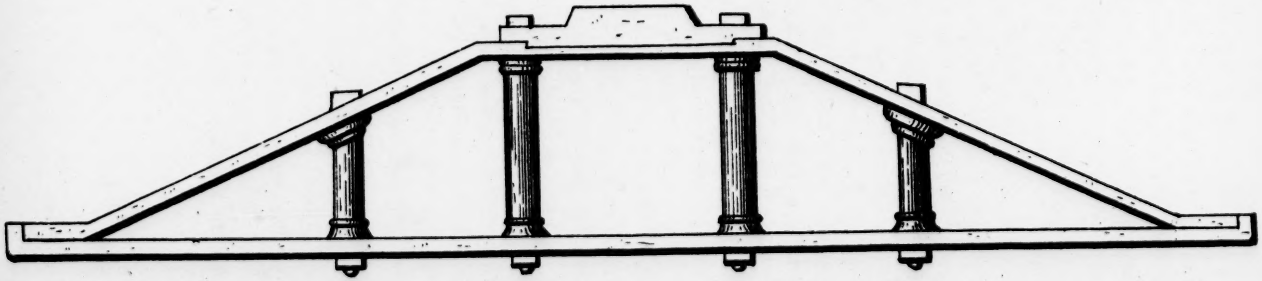
by itself a floating bolster, the floating in its case being done by the entire truck frame of which it is a part, but the floating bolster was a well-known device, and, as a separate structure, the undoubted equivalent in the art of the rigid bolster, and it could have required no invention to take the truss structure from the Naugatuck truck and apply it to the ordinary Diamond truck. Nothing was involved but the substitution of one old form of bolster for another—the metal truss form of the Naugatuck for the solid wooden form of Dripps and McCoy and Dean, or the metal form of Thurston and Ledyard, Thielsen, and Simonds.

In the well-known swing-truck case (Pennsylvania Railroad Company *v.* The Locomotive Engine Safety Truck Company, 110 U. S. 490), this court held that there was no invention in applying to the forward end of a locomotive a swinging or laterally moving truck which had been used under a car. In that case the problem presented was much more difficult than in the present case, owing to the fact that the driving wheels which support the rear end of a locomotive must be rigid with the frame of the engine and partake of the motion thereof, while the forward or pilot truck must have free motion in all directions independently of the engine frame. No such conditions were presented in the cars from which the truck was taken, because the swinging truck could be and was used at both ends of the car.

The decision in that case is especially pertinent to this, as the devices in question permitted the engine to float on its forward truck as the car had formerly done, while in this case one old form of bolster was made to float in the same manner as another old form. Certainly, invention was as little required to substitute the Naugatuck bolster for equally well-known forms of floating bolster.



Mc Carty Truck Bolster.



The Naugatuck Truck Bolster.

It is true that to adapt such bolster to be used successfully in its new position required the addition of side bearings and guide plates. So also, owing to the differences in structure between locomotives and cars, were there changes required to adapt the swing-truck to the locomotive. Something must, however, be left to the constructive skill of the mechanic, and in view of the age of guides and side bearings as necessary adjuncts of a floating bolster the substitution was a mere matter of construction within the ordinary resources of the car-builder's art. No mechanical difficulties arose which could not be overcome, and no problem was presented which could not be solved by what this court, in Hollister *v.* The Benedict Manufacturing Co. (113 U. S. 59), called "the expected skill of the calling," or which was not, as said in Phillips *v.* Detroit (111 U. S. 607), "within the mental reach of any one skilled in the art;" nor was there any result not already reached by other metal bolsters. Whatever advantage was gained was due to the superior strength of a truss over a straight beam, and builders have had a knowledge of this and have applied it in all forms of structure from time immemorial. If, as is so strongly urged, the truss bolster was not depressed under the load so as to throw the weight of the car upon the side bearings, with its consequent disadvantages, as had been the case with wooden bolsters, there is no evidence that the same result did not follow the use of the metal bolsters of Thurston and Ledyard or Thielsen, and that it was not due merely to the use of iron or steel instead of wood.

It is not to be understood that the appellee denies the utility of truck bolsters of either the McCarty and Bickel or the Lehigh Valley construction. It does, however, deny that there is evidence of such superior utility in the McCarty construction over what had gone before as to

warrant the court in holding that anything more than mechanical skill was involved in its production. Nothing in this respect can be presumed from its adoption, because there is in the record no evidence that a single truck bolster constructed in accordance with the specifications and drawings of the McCarty and Bickel patents ever went into use upon any one of the railways in the United States.

Upon this point the statements made on behalf of the appellants are not overlooked, that the McCarty bolster was "adopted" and "put into extensive use" by the Pennsylvania Railroad Company. There is, however, nothing in the proofs to show that the Pennsylvania or any other railroad company ever put a single one of the McCarty bolsters into actual use upon its road. McCarty, it is true, says that it took a license under the patents and has built trucks with bolsters substantially as shown in such patents, but the license is not produced, its terms and the circumstances of its taking are not given, the construction of the trucks built by such company is not shown, and further than McCarty's statement that "they have built trucks with bolsters, substantially as shown in patents No. 314,459 and No. 339,913" (McCarty, Record, pp. 49–50, x-QQ. 141–145), there is nothing to show any use by the Pennsylvania Railroad; for all the proofs show such trucks may have been purely experimental, two or three in number, and may never have gone under a car.

Surely it takes more than this to establish that the Pennsylvania Railroad Company adopted and extensively used McCarty's bolster, especially when his loose statements as to the identity of the Lehigh Valley bolster with his are remembered, and the further fact that Mr. Lentz testifies that a car having under it the Lehigh Valley bolster was

sent to Altoona, where are the shops of the Pennsylvania Railroad Company (Lentz, Record, p. 120, Q. 4). As easily might the alleged Pennsylvania Railroad bolsters have been constructed in the form of the Lehigh Valley bolster so sent to Altoona.

One reason why the McCarty truck bolster did not go into general use may be found in the testimony of Lentz and Montz that after building a number of cars with the bolster having a straight lower bar it was found that they were not strong enough but were breaking, and that thereafter the lower bar was arched as shown in the blueprints Defendant's Exhibits Lehigh Valley R.R. Co.'s trucks Nos. 2 and 3, and the model exhibit, Lehigh Valley R.R. truck No. 2 (Lentz, Record, p. 120, Q. 4; Montz, p. 130, QQ. 37–43). McCarty's bolster, it will be remembered, has a straight lower bar.

What has just been said as to patentability applies generally to all the claims of the two patents involved in this controversy.

Further and specifically, it may be said that as to the second claim of patent No. 314,459 it would not seem to require invention to use angle or channel irons as a support between the bars of the truck bolster, as angle irons in analogous positions are well known in the art, being shown in the patents to Thielsen and Simonds. Whether, however, this claim is valid or not is immaterial to this controversy, since the appellee does not use angle irons with its truck bolsters.

Substantially the same thing may be said as to the first and second claims of patent No. 339,913, which include the truss rods, such rods being shown with truck bolsters in Roberts as early as 1859 and in McCoy and Dean.

As to the feature of turning over the ends of the lower bar comprised in the third claim of No. 314,459, in the third

claim of No. 339,913, and by construction also in the fourth claim of No. 339,913, we have already seen that this is anticipated by the Naugatuck truck, and is shown to be an old mechanical expedient in the patent to Thielsen.

As to this fourth claim, it may also be said that it is for an inoperative combination, since it does not include the columns H underneath the central part of the upper bar of the bolster, and without which the bolster would not have strength enough to support its load.

Upon this point the testimony of Mr. Whittlesey (Record, p. 83) is instructive.

> "x-Q. 54. Do you think that the parts H could be dispensed with and there still be an operative device?
>
> "A. I doubt very much if they could—they or something equivalent for them.
>
> "x-Q. 55. Then is not the claim as it stands objectionable, as not including all the elements necessary for the combination?
>
> "A. It would seem to be, unless it would appear from competent evidence that the columns H could be omitted. That is a matter of practical knowledge, derived from the active operation of the device, upon which I do not feel competent to express an opinion."

No evidence that the columns H can be omitted has been introduced; but from the fact that some support is shown in all these structures in the position of the columns H, it is evident that they are a necessity, and that the fourth claim does not specify an operative combination, and is invalid upon this ground alone.

This objection of inoperative combination would seem, also, to apply to the third claim of No. 314,459, because, after specifying the upper and lower bolster bars, it qualifies the structure claimed by the words "these two bars composing the whole bolster."

It is of course apparent that more than these two bars is required to form a complete and operative truck bolster.

It is therefore, upon the various grounds stated herein, respectfully submitted that the court below did not err

in declaring the McCarty and Bickel patents to be invalid, and that its decision in this respect should be affirmed.

Should any authorities be desired upon the questions of invention and double use other than those already cited, they may be found in the following decisions of this court:

Morris *v.* McMillin, 112 U. S. 244.
Blake *v.* San Francisco, 113 U. S. 679.
Thompson *v.* Boissilier, 114 U. S. 1.
Thatcher Heating Co. *v.* Burtis, 121 U. S. 286.
Aron *v.* Manhattan R.R. Co., 132 U. S. 84.
Howe Machine Co. *v.* National Needle Co., 134 U. S. 388.
Patent Clothing Co. *v.* Glover, 141 U. S. 560.

The Alleged Appropriation of McCarty's Truck Bolster.

It is believed that this case should be disposed of solely upon a consideration of the questions of infringement and patentability. A large part, however, of the complainants' case below was devoted to a consideration of the question whether the Lehigh Valley Railroad Company had not surreptitiously appropriated the invention of Mr. McCarty and procured it to be patented by one of its employees, and whether the company was not therefore estopped from denying the validity of the McCarty and Bickel patents.

This branch of the case seems to have made no impression whatever upon the court below, as Judge Butler, who delivered the opinion, disposed of it summarily in a single short paragraph.

Mr. McCarty's story (Record, pp. 13–19) is that, recog-

nizing defects in truck bolsters made of wood, he sometime in the year 1880 conceived of, and had constructed, the form of truck bolster shown in Complainants' Exhibit Diagram No. 11, which consisted of alternate flat plates of wood and iron. This form was tried for some months during the year 1880, but was not satisfactory. Following this, but at what time is not stated, the form shown in the drawings of patent No. 339,913 suggested itself to him. It does not appear that he did anything to embody his idea in concrete form until the latter part of the year 1882, when he arranged to have a model made. This model is, however, not in evidence. On September 30, 1882, he filed a caveat in the Patent Office. The specification of the caveat is in evidence (Record, p. 93) and appears to describe substantially the form of truck bolster shown in the drawings of patent No. 339,913, including the truss rods; but, as the caveat drawing was not introduced, this cannot be told with certainty. In October 1882, he attended the convention of the Master Car Builders' Association at Niagara Falls, and exhibited his truck bolster in the shape of a model. Among the persons attending this convention and who saw the truck bolster was John S. Lentz, the master car builder of the Lehigh Valley Railroad Company. Within a short time after the adjournment of the convention, McCarty received from Lentz a letter dated October 17, 1882, which contained a request for a blue-print of the truck exhibited at the Master Car Builders' convention. This blue-print was sent to McCarty and was duly received by Lentz. It is in evidence as "Defendant's Exhibit McCarty Drawing," and shows the form of bolster covered by patent No. 339,913, including the truss rods.

The implication is conveyed throughout McCarty's testimony, and the ground is taken by his counsel in argu-

ment, that from this blue-print and from the model exhibited at the Master Car Builders' convention, Lentz and the Lehigh Valley Railroad Company obtained the first idea of the truck bolster which they afterwards adopted, and that the first construction and use of such a bolster by them were after the receipt of the blue-print.

As proving this, much stress is laid by appellants upon the fact that the blue-prints, exhibits Nos. 1, 2, and 3, showing the construction of the Lehigh Valley truck bolster are dated April 27, 1883, some six months after the receipt of the McCarty blue-print.

It is, however, submitted that the date of the prints is not at all conclusive as to this contention,—

First, because they do not show the same construction as the McCarty blue-print;

Secondly, because it appears from the proofs that they were made after the trucks had been built and not before;

Thirdly, because in any event they do not fix the date of construction of the trucks, as Lentz testifies that as to all present freight-car construction upon appellee's road the complete drawings were not made until after the cars were built, and that therefore the date which may be upon the drawings is not evidence of the date of building (Lentz, Record, p. 124, x-Q. 43-45, R-d. Q. 50–53; Montz, p. 129, Q. 34–36, x-Q. 98–107).

The only attempt at corroboration of McCarty's testimony as to his alleged early invention of the truck bolster is found in the testimony of William L. Holman (Record, p. 55). This testimony is merely to the effect that, while working on his design for a truck bolster, McCarty, in the latter part of 1880, showed Holman some sketches made on yellow wrapping paper, and that in 1882 he saw Complainants' Exhibit No. 8 (QQ. 14, 15, 30, 35). These dates are given by Holman purely from memory, and are not fixed by any documentary or other evidence.

As has been before seen, the earliest date fixed by any documentary evidence for McCarty's alleged invention is September 30, 1882, when he filed his caveat.

Before that date, and in September, 1882, probably the fourteenth, as appears from the uncontradicted testimony of Montz and Lentz (Montz, Record, 126, Q. 36, p. 134, x-QQ. 91–92; Lentz, p. 119, Q. 4, x-QQ. 24, 40), a truck containing a bolster made by Montz in accordance with his own previously conceived design, and substantially the bolster shown in Defendant's Exhibit Truck No. 1, was put under a car at the Packerton shops of the Lehigh Valley Railroad Company and used.

A sketch drawn to scale and from which the patterns were made for the castings of the columns placed between the bars of this bolster is in evidence, "Defendant's Exhibit Montz Original Sketch" (Record, opposite p. 151), and bears date August 31, 1882 (Montz, Record, p. 128, Q. 18, p. 129, QQ. 27–33).

One of the original cap pieces constructed to be used with this form of bolster is also in evidence. It bears the foundry mark cast upon it, "B–55."

Certain foundry statements are also in evidence showing that some of these caps were finished and shipped from the foundry September 6, September 13, and September 14, 1882, the casting being identified in these statements by its mark "B–55," tr'k bolster cap" (Defendant's Exhibits Foundry Statements, Record, pages 149, 150, 151; Montz, Record, p. 128, QQ. 19–24).

It thus appears that before the date of filing McCarty's caveat, or the date upon which McCarty's truck-bolster model was exhibited at the Niagara Falls Master Car Builders' convention, there had been constructed and put in use by Montz and Lentz, upon the Lehigh Valley Railroad, a truck bolster of the form McCarty claims to have

been suggested to Lentz by the sight of the McCarty truck bolster at the convention, and to have been made from the drawing or blue-print sent to Lentz by McCarty, in accordance with the letter of October 17, 1882. It is, therefore, clear that Lentz and Montz could not have derived their idea of the truck bolster either from the model exhibited at the Master Car Builders' convention, or from the blue-print sent by McCarty, because several weeks before either one of these events the Lehigh Valley bolster had been constructed and put into actual operation.

That they derived knowledge of McCarty's efforts before the exhibition of the model at the convention does not appear from any evidence in the case, nor does McCarty make any such claim.

Montz's story as to the conception and construction of the Lehigh Valley truck bolster is perfectly plain and consistent (Record, p. 126). In February, 1882, he built a flat car which was provided with an iron body bolster. At that time the idea struck him that the same form of bolster could be used for a truck bolster (Q. 3). This body bolster was like that shown in "Defendant's Exhibit Old Metal Transom," and "Car Builders' Dictionary," and was not original with Montz, having before that time been seen by him upon the cars of companies other than the Lehigh Valley.

To adapt the body bolster for use as a truck bolster Montz turned it upside down, and placed upon the ends caps of the kind shown by the exhibits "Defendant's Exhibits Montz Cap Piece," and "Montz Original Casting," making, of course, such changes as his knowledge of the art showed him were necessary. Lentz's testimony (Record, p. 119) coincides, as to the date of construction of the truck bolster, with Montz's. He fixes it in Septem-

As has been before seen, the earliest date fixed by any documentary evidence for McCarty's alleged invention is September 30, 1882, when he filed his caveat.

Before that date, and in September, 1882, probably the fourteenth, as appears from the uncontradicted testimony of Montz and Lentz (Montz, Record, 126, Q. 36, p. 134, x-QQ. 91–92; Lentz, p. 119, Q. 4, x-QQ. 24, 40), a truck containing a bolster made by Montz in accordance with his own previously conceived design, and substantially the bolster shown in Defendant's Exhibit Truck No. 1, was put under a car at the Packerton shops of the Lehigh Valley Railroad Company and used.

A sketch drawn to scale and from which the patterns were made for the castings of the columns placed between the bars of this bolster is in evidence, "Defendant's Exhibit Montz Original Sketch" (Record, opposite p. 151), and bears date August 31, 1882 (Montz, Record, p. 128, Q. 18, p. 129, QQ. 27–33).

One of the original cap pieces constructed to be used with this form of bolster is also in evidence. It bears the foundry mark cast upon it, "B–55."

Certain foundry statements are also in evidence showing that some of these caps were finished and shipped from the foundry September 6, September 13, and September 14, 1882, the casting being identified in these statements by its mark "B–55," tr'k bolster cap" (Defendant's Exhibits Foundry Statements, Record, pages 149, 150, 151; Montz, Record, p. 128, QQ. 19–24).

It thus appears that before the date of filing McCarty's caveat, or the date upon which McCarty's truck-bolster model was exhibited at the Niagara Falls Master Car Builders' convention, there had been constructed and put in use by Montz and Lentz, upon the Lehigh Valley Railroad, a truck bolster of the form McCarty claims to have

been suggested to Lentz by the sight of the McCarty truck bolster at the convention, and to have been made from the drawing or blue-print sent to Lentz by McCarty, in accordance with the letter of October 17, 1882. It is, therefore, clear that Lentz and Montz could not have derived their idea of the truck bolster either from the model exhibited at the Master Car Builders' convention, or from the blue-print sent by McCarty, because several weeks before either one of these events the Lehigh Valley bolster had been constructed and put into actual operation.

That they derived knowledge of McCarty's efforts before the exhibition of the model at the convention does not appear from any evidence in the case, nor does McCarty make any such claim.

Montz's story as to the conception and construction of the Lehigh Valley truck bolster is perfectly plain and consistent (Record, p. 126). In February, 1882, he built a flat car which was provided with an iron body bolster. At that time the idea struck him that the same form of bolster could be used for a truck bolster (Q. 3). This body bolster was like that shown in "Defendant's Exhibit Old Metal Transom," and "Car Builders' Dictionary," and was not original with Montz, having before that time been seen by him upon the cars of companies other than the Lehigh Valley.

To adapt the body bolster for use as a truck bolster Montz turned it upside down, and placed upon the ends caps of the kind shown by the exhibits "Defendant's Exhibits Montz Cap Piece," and "Montz Original Casting," making, of course, such changes as his knowledge of the art showed him were necessary. Lentz's testimony (Record, p. 119) coincides, as to the date of construction of the truck bolster, with Montz's. He fixes it in Septem-

ber, 1882 (Q. 4, x-Q. 40), or, at least, before the date of the Master Car Builders' convention at Niagara Falls. Lentz freely admits that at that convention McCarty showed him a blue-print or model, or both, of his truck, and that after his return home he told Montz what he had seen, and at Montz's request obtained a blue-print from McCarty (Lentz, Record, p. 119, Q. 4).

Now, it is submitted that there is nothing unusual or suspicious in the conduct of either Lentz or Montz. It was quite natural that Montz should desire to see McCarty's truck bolster and compare it with his own, as he says he did (QQ. 54–56), and that Lentz should obtain the blue-print for him; but that they got from McCarty the ideas which led them to the construction of the truck bolster they adopted cannot be, because it had been constructed and used before they had any knowledge that he had a bolster. On the contrary, it might well be that McCarty derived his ideas from them, for Montz says that McCarty frequently visited the shops of the Lehigh Valley Railroad Company, at Packerton; that he had an opportunity of seeing what was going on there; that he was shown the trucks while they were in process of construction, and that he did not make any claim that the form of bolster applied to them was of his invention, or complain that the Lehigh Valley Railroad Company was appropriating it (Montz, Record, p. 130, QQ. 44–51).

In fact, there is no direct evidence that McCarty ever made any claim until about a year before the commencement of this suit—December, 1888 (Record, p. 54, R., x-Q. 165).

McCarty, it is true, states that during the year 1883 Lentz had frequent conversations with him in which the truck bolster was discussed, and arrangements were contemplated between Lentz and McCarty for its general introduction (Record, p. 17, Q. 4).

Lentz, on the other hand, states that McCarty came frequently to Packerton, but does not remember that anything was said on the subject of infringement, and he did not know that McCarty's bolster was patented until several years after the Lehigh Valley bolster had gone into use. He thinks some discussion was had as to mutual arrangement for introduction of the trucks, but not until 1885, after Montz, through Mr. Goodwin, general superintendent of the Lehigh Valley Railroad Company, had offered at a meeting of the Master Car Builders' Association to donate his truck bolster to the railroad companies of the United States (Lentz, Record, p. 120, Q. 4, p. 122, QQ. 21–23), and nearly two years after McCarty had seen the Lehigh bolster in use (Lentz, Q. 4; McCarty, p. 16, Q. 4; Complainants' Exhibit No. 10, p. 65).

The Interference Proceeding in the Patent Office between McCarty and Montz.

Much stress was laid by appellants in the court below upon the fact that, in an interference proceeding in the Patent Office between Montz and McCarty, priority of invention was awarded to McCarty. This interference, according to Montz's story, was brought about during one of the conversations which he had with Lentz upon the subject of truck bolsters, at which Montz was present. During this conversation McCarty discovered that Montz had in his hand patent No. 291,382, granted to Montz, January 1, 1884, covering a truck bolster the same as the Lehigh Valley bolster except that it was provided with truss rods. This was the first knowledge McCarty had of the Montz patent.

Information of this patent was at once communicated to McCarty's attorney in Washington, and the interference

proceeding resulted, in which McCarty was successful (McCarty, Record, pp. 17, 29, QQ. 4, 28). The interference, however, involved the bolster with truss rods, and not the bolster which is the subject of this controversy, and the award of priority was made to McCarty by default, neither party having taken testimony, simply upon the ground that McCarty's application into which the interfering claim was inserted was filed about ten days before Montz's (Complainants' Exhibit No. 4, Record, pp. 108, 109).

The insinuation is also made by McCarty (Record, p. 18, Q. 4) that in some way access had been obtained by Montz and Lentz to his papers and that the language of Montz's claim was copied therefrom. There is, however, nothing in the proofs to sustain such a charge, and McCarty under cross-examination disclaims it (Record, p. 49, x-Q. 138).

The truth is that if there was any copying of claims it was done by McCarty, because his first claim, which was included in the interference with Montz, was not put into its present form by him until September 10, 1885, after he had seen Montz's patent, which issued January 1, 1884, twenty-one months earlier, and the language of this claim is the same as Montz's second claim, omitting only the reference letters (Record, pp. 106, 107, 108).

It is urged by appellants that by the judgment adverse to Montz in the interference the Lehigh Valley Railroad Company is estopped from asserting that McCarty is the prior inventor. While it is not questioned that under certain conditions this might be true, it is not believed that this question properly arises in this case. In the first place, both of the issues in the interference include the truss rods, which are not used in the Lehigh Valley truck bolster, and who was the first inventor of a bolster provided with such rods is immaterial to this controversy.

Secondly, it is not shown that there was any such privity between Montz and the Lehigh Valley Railroad Company as that such company is to be bound by his acts or omissions. As was truly stated in the opinion of the court below, the circumstance that he was in the employ of the company is unimportant, as he was not employed to represent it in the Patent Office.

The only foundation upon which appellants rest their case in this particular is that Montz, in reply to a question why he did not proceed with the interference, replied that he had no orders from his superior officers of the road (Record, p. 132, QQ. 68–69), which, it is submitted, is not sufficient to show that the Lehigh Valley Railroad Company was, through Montz, conducting the interference, or that he was acting under the authority of the company to such an extent as to bind it. Before his action could have such effect, it should be shown affirmatively that the company had knowledge of the proceeding and its conduct and assented to whatever action was taken. An estoppel will not be presumed. (Russell *v.* Place, 94 U. S. 606).

Montz the Prior Inventor.

Conceding now for the sake of argument that it is pertinent to determine whether Montz or McCarty was the prior inventor of the truck bolster in controversy, and assuming that the appellant is not estopped from contesting the question of priority, it is to be said:

First, that the preliminary statements filed by the parties in the Patent Office (Record, p. 108, Complainant's Exhibit, No. 4) cannot be taken as evidence of the facts and dates set up therein. Under the rules of the Patent Office they are not evidence even there, but are merely pleadings.

Secondly, although Montz was already a patentee, the award of priority was made to McCarty simply because, both parties having failed to take testimony, McCarty's application was first filed in the Patent Office, namely, August 31, 1883, while Montz's date of filing was September 10, 1883. It is well settled that, to overcome the presumption raised by the grant of a patent, an interference contestant must show that he was the prior inventor beyond a reasonable doubt, and it is more than questionable whether the Patent Office can rightfully grant a patent for an invention already patented, upon a mere priority of filing date. (Morgan *v.* Daniels, 153 U. S. 120.)

Thirdly, conceding to McCarty the dates of invention claimed by him, he is not entitled to priority over Montz, because, although he was first to conceive the invention, he never reduced it to practice in complete, operative form, all he did being to make some sketches and a model, file a caveat, and apply for a patent.

Montz, on the other hand, although he conceived the invention later than McCarty, proceeded diligently to reduce it to practice. Several weeks before McCarty filed his caveat, which in its terms is an acknowledgment that his invention was incomplete, and that he desired further time to perfect it, and nearly a year before McCarty filed his application for a patent, Montz had reduced his invention to actual practice, and had it running upon a car on the Lehigh Valley Railroad.

In conflicts of this kind between rival inventors as to priority of invention, the law, since the decision of Mr. Justice Story in Reed *v.* Cutter (1 Story, 590), has been that he who first reduces his invention to a fixed, positive, and practical form is entitled to priority of invention, unless another had before him conceived the invention and used reasonable diligence in reducing it to practice.

McCarty never did reduce the invention to practice. It is true he filed an application for a patent, but this application was not made until August 31, 1883. At that time Montz's invention had been in use by the Lehigh Valley Railroad Company for nearly a year; so that if we take the date of his caveat, there is a period of a year, or if we take for his conception the date claimed for him by his counsel, namely, some time in 1880, there is a period of nearly three years, during which he got no further than to make models and sketches, and this delay is unexcused by sickness, poverty, lack of facilities, or the like.

In such circumstances it would appear to be clear that McCarty showed such a lack of diligence as to deprive him of the benefit of his prior conception as against Montz, who was first to reduce his invention to actual practical form and use.

The law upon this subject is fully set out in a decision of the Circuit Court of Appeals for the Sixth Circuit, the late Mr. Justice Jackson sitting. (Christie *v.* Seybold, 5 C. C. A. 33. See also Robinson on Patents, sections 383–392).

If it be urged that the decision of the Patent Office is binding upon this court, it is only to be said that in Morgan *v.* Daniels, above, it was held that such decisions are not controlling unless the parties to the suit are the same as in the Patent Office proceeding, and there is no evidence which, in character and amount, carries conviction to the contrary of the Patent Office finding. As we have already seen, the parties to this suit are not the same as in the Patent Office, and there was in that office no proof at all, simply judgment by default.

It is therefore submitted that it has not been shown either that the Lehigh Valley Railroad Company, or any of its officials, appropriated the invention of McCarty, but that on the contrary the Lehigh Valley truck was inde-

pendently invented by one of its employees and was put into actual practical use before the invention of McCarty was complete, and without any knowledge of McCarty's invention; also that if any question of priority of invention arises in this case, Montz, who devised the Lehigh Valley truck, must be held to be the prior inventor.

APPELLEE'S POINTS.

Upon the part of the appellee it is therefore urged—

First. That there is no infringement by it of either one of the two McCarty and Bickel patents, because if the claims of such patents are properly limited in view of the prior state of the art, and the restrictions imposed upon them by appellants in order to obtain their allowance by the Patent Office, they cover a structure materially different from that used by the Lehigh Valley Railroad Company.

Secondly. That the McCarty and Bickel patents, to the extent, at least, of the claims involved in this controversy, are invalid because in the light of the prior art they do not cover a patentable invention, but only a structure the result of ordinary mechanical skill.

Thirdly. That the Lehigh Valley truck bolster was not constructed in accordance with information derived from McCarty but was independently devised and constructed by appellee's own employees, in its own shops, without suggestion from or knowledge of the efforts of McCarty, and was in actual use upon the Lehigh Valley Railroad before any knowledge of McCarty's said efforts came to any of its officials.

Fourthly. That a consideration of the question of priority of invention of the truck bolsters shown in the two patents of McCarty and Bickel and the patent to

Montz is not pertinent to any of the issues in this case; but if pertinent, the proofs show that under the law Montz was the prior inventor.

ROBERT J. FISHER,
Counsel for Appellee.